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Environmental Impact Report

THE DOWNTOWN PLAN

Final

Volume 3: Summary of Comments and Responses

EE81.3

SCH 84032003

Part 1: Responses

DRAFT EIR PUBLICATION DATE: March 16, 1984
PUBLIC HEARING DATES: April 26, 1984 and May 3, 1984
PUBLIC COMMENT PERIOD: March 16, 1984 through June 4, 1984
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INTRODUCTION

This Summary of Comments and Responses, Volume III of the Downtown Plan Environmental Impact Report, is divided into Part I, Responses, and Part II, Comments. Together with Volume I: Draft EIR Text and Volume II: Draft EIR, Appendices, this Volume III: Summary of Comments and Responses will comprise the Final Environmental Impact Report for the Downtown Plan (Downtown Plan EIR), upon certification by the City Planning Commission.

The Responses are organized as series of self-contained essays indexed by subject matter in the Table of Contents. The Comments reproduce the transcripts of the two public hearings and the written comments received during the public review period. Each paragraph of the comments is coded to identify the response(s) relevant to its concern.

There were a number of reasons for selecting this organizational framework, rather than using a comment/response format (in which each comment is followed by a response which addresses only that one comment). Decision-makers and the general public will be looking at the Summary of Comments and Responses to provide clarification and elaboration on the issues of public concern. The separation of the responses enables them to serve as coherent and comprehensive "think-pieces" on each of these issues, while at the same time they identify the general public concerns which occasioned their preparation. This approach should make the responses more comprehensible and usable to the decision-makers. Further, comments are included as they were presented, rather than separated by topic. This allows the reader to see all the issues raised by each commenter in one location. Many of the commenters raised issues that were so intertwined with one another that if the comments were divided by discrete issues the comments would become indecipherable without substantial paraphrasing. Such paraphrasing alters the context of the comment and can distort its meaning. Finally, the magnitude of the comments dictated against a comment/response format, with its demands for reorganization of all comments.

Each paragraph of the comments was coded in order to show which responses addressed the concern expressed. Paragraphs which raised multiple issues were coded to multiple responses. Some responses cross-reference other response sections (referred to indistinguishably as either "Response" or "Section") where the subject matter was relevant and provided additional information about the concerns being addressed.

In some instances the responses propose changes to the text of the EIR. These are indicated in the prose of the response, and the revisions are presented in quotation marks and indented. Those who presently have Volumes I and II may wish to add the revisions proposed in Volume III to those earlier volumes or otherwise mark the pages affected, in order to consolidate the proposed final text of the EIR.

There was substantial public comment on the EIR, with about 80 commenters, about 300 pages of hearing transcript, and 335 pages of written statements or letters. This was not unexpected, owing to the importance to San Francisco of Downtown growth management controls. There were comments about the complexity of the overall document, and much in the responses attempts to address that issue, as well as specific questions, by explaining the methodology or impacts more simply. There is also elaboration on points of interest to specific commenters.

The Responses total about 400 pages, and the reader is encouraged to use the detailed Table of Contents to find issues of particular concern. The Responses are organized with varying levels of sections and subsections. Where a section is referenced, all its subsections should be considered part of the response as well. Likewise, the more general section discussion often is of relevance to the more specific responses in its subsections.

It is possible that in the process of coding each paragraph of the 665 pages of comments to match the over 200 response codes, some comments were miscoded. This may have occurred as well when one response cross-referenced others. The commenter who believes a particular issue may not have been addressed fully should use the Table of Contents as well as the code(s) by the comment paragraph in question (and also other codes for other paragraphs in the same comment letter or testimony) to assist in finding other responses of relevance to their concern.

There were a large number of comments concerning how San Francisco non-C-3 Districts and other regional factors were both included in the analysis and assessed in impacts. The following outline should assist the reader in finding responses to these general issues, but should not be treated as all inclusive.

I. Regional and Non-C-3 Districts Factors Incorporated into the Analysis

    B.2 CITY AND REGIONAL ANALYSIS AND METHODOLOGY
    B.2.1 Citywide and Regional Context for Forecasts and Impact Assessment
    D.2.3 Basis for Future Context of Housing Supply in Region
    D.2.5 How Forecasts Account for Employment Growth Outside the District C-3
    D.3.2.1 Regional Context for Impact Assessment
    E.1.5 Non-C-3 Travel Growth
    E.1.9 Non-C-3 Travel Growth and Mission Bay

II. Impacts of Downtown Plan on San Francisco Non-C-3 Districts

    B.2.2 Questions About City and Regional Growth Patterns
    B.2.3 Status of Specific Non-C-3 District Development
    B.4 DISPLACEMENT
    D.3.1 Housing Market Impacts in San Francisco
    D.3.3 Questions About Implications of Different Future Conditions
    D.6 REVISIONS/ADDITIONS TO EIR TEXT
    E.2.2.3 Surface Transit Operation and Traffic Congestion
    E.3.2 San Francisco Traffic
    E.4.1 Parking Policies
    E.4.2 Neighborhood Parking Impacts
    E.5 PEDESTRIAN IMPACTS

H.4.3 Skyline Views
J. NOISE
N.1 CONSIDERATION OF LAND VALUES IN AREAS NEAR DOWNTOWN
N.2 STATUS OF PLANNING EFFORTS FOR AREAS NEAR DOWNTOWN
O. GROWTH INDUCEMENT
P.1 ANNUAL GROWTH LIMIT
Q. ALTERNATIVES
Y.2 ZONING AMENDMENTS PROPOSED AS MITIGATION MEASURES FOR AREAS AFFECTED BY DOWNTOWN PLAN

III. Impacts of Downtown Plan on the Region

B.2.2 Questions About City and Regional Growth Patterns
B.6 OPEN SPACE
D.3.2 Regional Housing Market Implications of C-3 District Growth
D.3.3 Questions About Implications of Different Future Conditions
D.6 REVISIONS/ADDITIONS TO EIR TEXT
E.1.7 Consequences of Continuing Growth on Transportation
E.2.3 BART
E.2.4 AC Transit
E.2.5 Golden Gate Transit
E.2.6 CalTrans Transit Projects
E.2.7.4 Cross-Subsidization and Financial Equity
E.3.1 Freeways and Bridges
E.4.3 Parking Impacts Outside San Francisco
H.4.3 Skyline Views
I.2 HEALTH EFFECTS
I.3 1982 BAY AREA AIR QUALITY PLAN
I.6 ACID RAIN
N.3 REGIONAL PLANNING RESPONSIBILITIES AND CONSIDERATIONS
O. GROWTH INDUCEMENT
P.1 ANNUAL GROWTH LIMIT
P.3 ANNUAL EVALUATION OF SAN FRANCISCO'S IMPACT ON REGION
Q. ALTERNATIVES

Every effort has been made to respond to the public comments on this EIR. The Department has provided all relevant information and much additional information in the Responses, with the aim of providing full disclosure of the effects of the Downtown Plan and alternative growth management controls on the environment. The issue of Downtown growth has been very controversial in San Francisco. There have been a multitude of Downtown projects and environmental documents on those projects. Environmental documents on specific Downtown development proposals have faced particular scrutiny in recent years. It may be that it is easier to challenge the comprehensiveness of what is necessarily a relatively open-ended investigation of a project's impacts than it is to challenge successfully the decision on a project itself. In any event, the analysis of environmental impacts for Downtown development projects has gone through many iterations of public comment and response, with continual improvement and greater refinement. This has, however, brought greater complexity to the analysis. Comments on the Downtown Plan EIR have delved more and more deeply into methodology, all assumptions have been challenged, and linkage of impacts has been requested with regional and even statewide impacts that ultimately goes beyond any technical ability to establish relationships. The end result of the continual demand for "stretching of the envelope," coupled with the need for precision when discussing complex relationships, is an analysis that perhaps would be as comfortably lodged in the halls of Academia as in the corridors of City Hall. The relationships between City policies and regulations, the private market response to these and innumerable other factors as expressed by resulting development and employment, and the impacts of those private market responses on all the natural and built systems in San Francisco and its environs, are very complex. The analysis of the Downtown Plan EIR builds on that of the Consultant's Report and prior EIRs and is much more comprehensive and accurate. While the analysis may require effort to comprehend fully, the Department does not wish to give short shrift to accuracy by oversimplifying complex issues.

As stated earlier, much effort in the Responses has gone toward clarifying and elaborating on the information in the Draft EIR. The reader should use the Responses Table of Contents to identify topics of particular interest for areas of their special concern. This should also be done in the Main Text of the EIR. For an overview of the impact analysis, some may find it beneficial to concentrate on the 75 pages included in Chapter I, Summary; Chapter 2, Background and Introduction; Chapter VI, Significant Environmental Effects Which Cannot Be Avoided If The Proposed Project Is Implemented; Chapter VII, Alternatives, pp.VII.1-6 and VII.30-32; Chapter VIII, The Relationship Between Local Short-Term Uses Of Man's Environment And The Maintenance And Enhancement of Long-Term Productivity; Chapter IX, Significant Irreversible Environmental Changes Which Would Be Involved In The Proposed Action Should It Be Implemented; and Chapter X, Growth Inducement. Those who are deeply interested in these issues, however, will be rewarded by studying the entire document thoroughly, including the Responses.

PART I: RESPONSES

A. LOCAL PLANS AND POLICIES

A.1. DOWNTOWN PLAN

Goals of the Downtown Plan to control growth and its impacts would be implemented by adoption of proposed amendments to the City Planning Code. The amendments would include implementing actions for the Plan as well as additional provisions. For a review of how the goals of the Downtown Plan could be implemented, see Proposed Amendments to the City Planning Code, June 1984. It is anticipated that there will be further proposed amendments to the City Planning Code before final adoption of proposed amendments

The Downtown Plan contains the following chapters: Space for Commerce, Space for Housing, Open Space, Preserving the Past, Urban Form, and Moving About. Design and skyline issues are just two of many issues for which the Plan contains objectives, policies and implementing actions. Implementation of the Plan would reduce the rate of growth possible under existing zoning controls (Alternative 1). The Plan proposes to lower height limits, lower FARs, add stricter bulk controls, revise open space policies and requirements, include sunlight access criteria for open spaces and selected sidewalks, require preservation of proposed Category I and II architecturally significant buildings, and include transit and housing policies and targets. (See the Downtown Plan, November 1983, and the Downtown Plan Proposed Amendments, June 1984, for further description of the Plan.) It is the premise of the Plan that these features along with mitigation measures resulting from the environmental analysis would allow growth to continue without adverse consequences.

There are opposing views concerning the amount of office growth which would be desirable. The Department received comments from individuals who reject the Downtown Plan's objective that San Francisco should be a financial center, its economy based on highrises, and question the Plan's ability to deal with the impacts associated with growth. There were also comments that the residents' rights to a liveable city should outweigh the developers' rights to profits, and that commercial growth in the next 16 years presents a threat unmatched since the freeway development crisis of the 1960s. The Downtown Plan and the Master Plan represent the view that office growth is desirable at a reasonable rate when its impacts are limited because development supports the economic vitality of the city and is the city's major provider of employment opportunities. Under the Downtown Plan's controls, the maximum development potential would be less than under the current Planning Code (Alternative 1). Although the impacts of the amount and type of growth allowed under the Plan would be more than under a no-growth policy, they would be less than under the existing controls. In the event that there were significant impacts that could not be mitigated, the City Planning Commission could decide whether there would be overriding considerations which outweigh the costs of such growth. (See Reasons for Selecting the Preferred Alternative on pages VII.30-VII.32 of the EIR and Response Q.5 for a future discussion of these issues).

The EIR process for the Downtown Plan was initiated because the City recognized that there could be adverse impacts due to growth (see Response S.1.1 for a discussion of the EIR process). The impacts section of the EIR did not include all of the provisions of the Downtown Plan that would mitigate impacts. Mitigation measures of the EIR would reduce the impacts (including transit impacts) resulting from future development. Monitoring the effects of growth and the effectiveness of the Plan's policies in meeting housing and transportation targets and recommended future action, and/or adopting annual growth limits are two measures which would mitigate the undesirable consequences of growth. (See Response P for further discussion of mitigation measures.)

Commenters stressed that planning which preserves and encourages San Francisco's tradition of economic and social diversity is needed. In response, the Department of City Planning agrees that San Francisco is a diverse city with a unique mixture of social and economic functions which should be valued and respected. For the economic effect of the Downtown Plan see Response B.3.

One commenter stated that the Plan would benefit a minority of large corporate developers by increasing the value of their land. The Plan proposes more controls for development than currently exist and the total amount of development permitted downtown would be reduced compared to development permitted with existing controls (Alternative 1). It is not clear how, in general, the Plan would increase land values downtown (see Responses B.3 and N.1 for a discussion of this issue) and it is not necessary to analyze specific land values in order to prepare an environmental analysis.

Preservation policies of the Downtown Plan were formulated due to the number of archictectural/historic resources downtown which would be vulnerable to demolition. The Plan's preservation policies would provide more protection than provided in the past, and would be more effective than any of the Alternatives in protecting architectural/historic resources. Because about 2/3 of downtown buildings are rated A, B or C by the Foundation for San Francisco's Architectural Heritage, the Downtown Plan proposes to protect those buildings which are the most significant. The Plan and implementing actions would require preservation of 266 Category I and II Significant Buildings, and provide incentives for the preservation of 232 Category III and IV Contributory Buildings. Contributory buildings within Conservation Districts would be offered more protection than similar buildings outside of Conservation Districts because they contribute to the overall context of the District. Proposed demolition controls for Significant Buildings (see Proposed Amendments to the City Planning Code, June, 1984, pages 11.10, 11.11) are indicative of controls which could be extended to additional buildings if so decided by decision-makers who will make the final determination of actual demolition controls. (See Response C.2.1. for further discussion of proposed preservation policies.)

Implementing actions of the Downtown Plan would include open space requirements for all non-residential uses which would be set by a ratio of the gross square feet of open space to gross square feet of development. For the C-3-O, C-3-G, C-3-S, and C-3-O (SD) Districts, one square foot of open space would be required for every 50 square feet of development for a ratio of 1:50. For the C-3-R District the ratio would be 1:100. The requirement could be satisfied by the provision of plazas, parks, urban gardens, sun and view terraces, greenhouse spaces, small sitting areas, atriums, indoor parks and public sitting areas in gallerias and arcades. The Plan would include height limits and solar access standards which would insure direct sunlight during critical times of the day to specified public open spaces and sidewalks. The Plan also proposes additional standards to control the quality of open spaces. (See Response B.6 for additional discussion of Open Space.) As an incentive for providing open space the Plan would permit Transfer of Development Rights from privately developed open space to development opportunity sites. For more detail, see the Open Space Chapter (pp 54-61) and Urban Form Chapter (pp 97-103) of the Downtown Plan.

There were comments that by linking open space and public art requirements to provisions of a pedestrian network, open space and public art requirements could be reduced and other incentives to developers provided. In response, the Downtown Plan does not include bonus provisions; the approach of the Plan is to require appropriate amenities. For example, pedestrian amenities in the form of arcades, through-block pedestrianways, pedestrian bridges, and improved streets and alleys would be mitigation measures for transportation impacts of new development (see Response E.5 for discussion of Pedestrian Impacts). Thus it would not be necessary to count the implementation of a pedestrian network against open space or art requirements.

In Response to comments on the Downtown Plan and EIR, amendments have been proposed (Proposed Amendments to the City Planning Code, June 1984, pp. 4-6) that would exclude facilities devoted to childcare from gross floor area calculations. See Response Z.2 for a discussion of childcare issues. Also, see Response Y for discussion of Downtown Plan and Planning Code amendments.

Zoning classifications in Redevelopment Areas such as the Yerba Buena Center (YBC) are controlled by the Redevelopment Agency; the City Planning Commission's jurisdiction over these areas is limited by parameters of the Redevelopment Plan. The Downtown Plan does not propose either changes to, or a "freeze" on, zoning in the YBC area; the Plan simply clarifies the existing land use controls established in the YBC Redevelopment Area legislation.

In response to a comment, P (Public Use) District classification does not contain restrictions on public uses. If publicly-owned parcels in public use which were not zoned P were rezoned P, there would be no required changes in land use.

Figure II.1 on page II.5 of the EIR contains a map which delineates the six subareas which are used in the EIR.

A.2. RESIDENCE ELEMENT OF THE MASTER PLAN

The Downtown Plan, if adopted, would become part of the Master Plan of the City and County of San Francisco. As such, the policies of the Downtown Plan must be consistent with the policies and objectives of the various other elements of the Master Plan. If policies of the Master Plan were contradicted by the Downtown Plan, it would be necessary to reconcile those policies. In preparing the Downtown Plan, Department of City Planning staff considered the existing policies and objectives of the Master Plan, and proposed a plan that is generally consistent with those policies.

One commenter advises that the EIR should indicate that the Downtown Plan conflicts with the Residence (Housing) Element. In particular, a conflict is alleged between the Downtown Plan and the following objectives and polices of the Residence Element: Objective 5 "To provide housing affordable by all income groups, particularly low and moderate income households," Policy 8 of Objective 5 "Ensure that office developments and higher educational institutions assist in meeting the housing demand that they generate", Objective 9 "To address housing needs through a coordinated regional approach", and Policy 1 of Objective 9 "Encourage the balancing of regional employment growth with the development and growth of housing in the region." The objectives and policies of the Residence Element of the Master Plan are not contradictory to the policies of the Downtown Plan. Rather, the Residence Element and the Downtown Plan complement each other. The Residence Element contains policies and programs that address the housing needs of San Franciscans. The policies in the housing chapter of the Downtown Plan were taken from the Residence Element adopted in 1983 and revised in July of 1984. The various programs and policies in the Residence Element are methods by which the City can mitigate the effects of office development.

For example, one of the implementation measures for Objective 5, Policy 8 is the Office Housing Production Program, which is proposed as a mitigation measure for the Downtown Plan. The OHPP is discussed on pages V.D.5-V.D.9 of the DEIR. As noted on page V.D.7 of the EIR, the OHPP would lead to more housing being produced in San Francisco relative to the growth of C-3 District employment under the Downtown Plan, and the number of C-3 District workers residing in San Francisco would be larger. With the OHPP the balance between job growth and housing growth would be improved, leading to somewhat less upward pressures on housing prices and rents than would occur under the plan without the OHPP (Page V.D.9).

Also, the the monitoring system for the Downtown Plan that is being proposed is a means by which the progress towards Objective 1, Policy 9 can be monitored. If the monitoring system indicates that the regional balance of jobs and housing is not being maintained, further controls on downtown development may be necessary.

A commenter alleges that Objective 1 of the Residence Element, "to provide new housing for all income groups in appropriate locations," is contradicted by the Plan, apparently because the Plan does not propose methods to provide housing for all income groups. The commenter notes that the EIR acknowledges the Plan does not address affordability, and concludes that the Plan could therefore not be consistent with the Residence Element. The full quote that the commenter cites on page IV.A.1 is "Although the Downtown Plan itself does not address housing affordability, air quality or energy issues, objectives and policies of the Master Plan address them." That remains an accurate statement. The fact that the Residence Element addresses housing objectives and policies, and that the Downtown EIR relies on those objectives and polices in assessing the impacts of the Downtown Plan, does not mean that the Objectives of the Residence Element are contradicted by the Downtown Plan.

A commenter notes that the EIR does not discuss rental housing. That is because rental housing is a socio-economic issue more properly left to the policy makers--the City Planning Commission and the Board of Supervisors. The

Residence Element of the Comprehensive Plan is the appropriate place to address rental and ownership issues. See for example pages 1.10-1.20 of the Residence Element, and Objective 7, Policy 6 on pages 2.21 and 3.23. Also see pages 52 through 61 of the Final EIR for the Residence Element (82.8E), which includes a discussion of rental housing in the analysis of housing impacts.

A.3. CHINATOWN

Proposition K approved by San Francisco voters in June, 1984 will protect the three Chinatown parks including the Chinese Playground, St. Mary's Square and Portsmouth Square and their environs from shading impacts. (See Response H.3.1 for further discussion of shadow impacts.)

For specific discussion of congestion impacts and mitigation measures, see Responses E.2.3, E.3.2, E.4.2 and E.6. Traffic congestion effects, in themselves, are not likely to preclude future development options in Chinatown particularly if such development involves growth of the existing activities in Chinatown. As outlined in Issue Paper #1, "Environmental Setting of Chinatown: History, People, Land Use Regulations, Development Trends", published by the Department of City Planning, February, 1984, these existing functions include a community with elderly and monolingual residents, a community containing institutions and services for the Chinese population of San Francisco and the Bay Area, and a visitor attraction. These residential, institutional, service and tourist functions have off-peak circulation patterns. The highest levels of retail and tourism activity occurs on weekends in Chinatown when downtown workers are not present. However, development of new office buildings within Chinatown would both contribute to and be impacted by traffic congestion.

As documented in the 1979 Tudor Engineering study Chinatown Core Area Traffic Circulation Study, Final Report, prepared for the San Francisco Department of City Planning, traffic congestion is an existing condition within Chinatown. In the last decade, a number of new commercial and mixed use developments have been approved and constructed in the Chinatown area.

Implementation of the Downtown Plan could cause development pressure in Chinatown, especially to portions of Kearny Street where existing heights would be retained. This would result in higher heights than would be in the contiguous C-3 districts. The Downtown Plan specifically deleted Chinatown from proposed C-3 District Controls and provided the basis for the Planning and Rezoning Study of the Chinatown Area now in process by the Department of City Planning. Neither the Downtown Plan or the initial work on the Rezoning Study recommend new office development within the area.

The Rezoning Study for Chinatown was initiated with a Community Forum in December 1983. Three additional forums on (1) Land Use and Population (2) Housing and (3) Commerce and Employment have been held. Forums for Transportation and Urban Form are planned for the Fall. The Planning Department's recommendations on Master Plan amendments and rezoning are scheduled to be released late in 1984. These recommendations would then undergo environmental evaluation for six months to one year before they could be implemented.

Due to downtown development pressure and the pending Chinatown Study, the City Planning Department intends to initiate Interim Controls as specified in Sections 306 to 306.6 of the Planning Code which authorizes the Planning Commission to impose interim zoning controls for a period up to 18 months. These interim controls would temporarily suspend the processing of certain applications for building permits or other land use authorizations which might be in conflict with the zoning proposals under the Chinatown Study. Such interim controls would cover the Chinatown Study Area, as defined in the Issue Paper #1 of the Chinatown Planning and Rezoning Study. This area would include the currently commercially zoned portions of Chinatown. The proposed interim controls could be imposed by the Planning Commission after notification of property owners and a legally advertised public hearing. If approved, interim controls would be in effect for a maximum of 18 months and could be superceded by the adoption of permanent controls as recommended in the Chinatown Planning and Rezoning Study.

(See Response Y.2 for proposed measures which would mitigate impacts of development in Chinatown.)

A.4. SOUTH OF MARKET

One commenter stated that the Department should not delay in rezoning the western portion of the South of Market Area described as Area 5 in SPUR's South of Market Study (June 1981) from C-3 to RC. SPUR recommends the rezoning of approximately 12 blocks south of Market to RC-3. Roughly only block from the SPUR study is presently zoned C-3 and it is contained in the South of Market Housing and Industrial Conservation Special Use District. (See the following paragraph for provisions of this Special Use District to discourage displacement of the existing residential community). The remainder of the 12 block area is outside the Downtown Plan Study area, but is included in the ongoing South of Market Rezoning Study. The Department anticipates publication of the Draft South of Market Plan for Citizen Review in early 1985. (See Response S.1.1 for a discussion of why the environmental analysis for the South of Market area is not included in this EIR.)

The Planning Department plans to hold public meetings to assess social service needs South of Market which would be attended by social service agencies and interested people. It is the intention of the Planning Department to include a social service needs assessment in a community services chapter of the South of Market Rezoning Study. Social service programs would be implemented by appropriate social service agencies.

Commenters expressed concern over the Downtown Plan's proposed controls for the portion of the South of Market included in the South of Market Housing and Industrial Conservation Interim Special Use District recently adopted by the Board of Supervisors. Displacement of residents, workers and small businesses could be mitigated by adoption of the provisions of the South of Market Housing and Industrial Consevation Interim Special Use District in the portion of the C-3-S covered by that Special Use District. This would include lowering the allowable base FAR from the existing 7:1 to 2:1 for office developments, which would be equivalent to that allowed under the ordinance adopted by the Board of Supervisors for this area. These interim controls could be adopted as permanent controls until the Department's South of Market Rezoning Study is completed and other permanent controls are considered for adoption. (See pages V.B.3-5 and V.C.3-4 of the EIR for further discussion of this proposed mitigation measure.)

In response to comments about FARs South of Market, FARs proposed in the Downtown Plan have been further revised to reduce the base FAR in the C-3-G District to 6:1, and in the C-3-S District to 5:1. (See Responses H.4.2 for discussion of proposed FARS.)

The Downtown Plan does not propose to increase heights permitted South of Market west of Seventh Street. With the exception of portions of two blocks for which heights would not be changed, heights proposed by the Downtown Plan would be lower. (See the Downtown Plan, November 1984, Maps 13 and 14, pages 85 and 87.)

B. LAND USE, REAL ESTATE, AND EMPLOYMENT

B.1 REAL ESTATE AND EMPLOYMENT FORECAST METHODOLOGY, ASSUMPTIONS, AND RESULTS

B.1.1 Rationale for Downtown Plan EIR Forecast Methodology

The economic forecasting methodology used to analyze the proposed Downtown Plan and Alternatives was developed specifically for this purpose. The methodology is based on urban economic theory and incorporates the best available information on local and regional development trends and conditions. The forecast methodology and the forecasts presented in the EIR for the Plan and Alternatives were prepared by economists at Recht Hausrath & Associates, not by Department of City Planning planners (see p. XI.1 of the EIR). A recent article in the Journal of the American Planning Association describes the forecasting approach used in the EIR analysis. (See Andrew M. Isserman, "Projection, Forecast, and Plan", in the *Journal of the American Planning Association*, Volume 50, Number 2, Spring 1984, pp. 208-221.)

There are several reasons why existing economic forecasts could not be used as the sole source for the Downtown Plan analysis. Most importantly, the primary purpose of the analysis was to provide both the employment and the building development information used in the impact assessment of the Plan and the Alternatives. Therefore, because the Plan and Alternatives (with the exception of Alternative 1, the existing Planning Code) represented a range of policy conditions different from either the past or the current situation, forecasts that did not specifically consider the implications of these changed conditions would not satisfy the requirements of the EIR analysis. Employment forecasts such as those prepared by the Association of Bay Area Governments (ABAG) and projections based on the list of proposed office building projects are not sensitive to alternative future C-3 District planning policies, and are thus inadequate as the sole basis for the Downtown Plan analysis. Furthermore, neither of these approaches could be used as the basis for the EIR forecasts because neither one provides the complete future context for *both* employment and building development. The employment data and forecasts available for the total City and for the region are inadequate because the information is presented in terms of the Standard Industrial Classification (SIC) system, which does not reflect functional or space use differences, most importantly in terms of office activities. (For example, the office headquarters of manufacturing companies are classified by the SIC code for manufacturing, along with production functions which are in industrial rather than office space.) The projections of new building development based on proposed projects do not incorporate changes in the use of existing space or longer-term development potential. Finally, the focus of the EIR analysis is the C-3 District. Prior to the Downtown Plan study, existing conditions in this area had not been documented and analyzed in detail and there were no suitable forecasts specific to this area. ABAG's forecasts are oriented primarily towards the region and the city as a whole without consideration of specific C-3 District policies. A list of projects limited to the C-3 District could be developed, but it would still not be representative of future conditions under new policies and zoning.

The subjects of the EIR impact assessment range from the size and location of new buildings and the amount of demolition, to housing market implications and the number of commuters. To attain the most comprehensive view of the effects of proposed policies, the economic forecasting methodology had to result in forecasts of both employment and space (including both new development and the use of existing space). The methodology developed for the Downtown Plan analysis was a qualitative "model" of the real estate market's resolution of demand and supply factors affecting growth in downtown San Francisco. On the supply side, the methodology focussed on the different space supply potentials for the C-3 District under the Plan and Alternatives, in terms of the amount, location, type, and cost of newly constructed or converted space. On the demand side, the methodology focussed on the characteristics and behavior of different space users, especially how they would react to different space supply conditions. Both supply and demand in the C-3 District were considered in the context of future citywide and regional market conditions. (See Section B.2.1 for a detailed discussion of how City and regional factors were considered.)

Data Sources and Information Used

Because the methodology could not rely solely on existing forecasts and because of the special requirements for understanding the interaction of demand and supply in San Francisco's real estate market, numerous sources were consulted and data collection efforts were undertaken specifically for the Downtown Plan EIR analysis. The data sources and their use are described, as relevant, in the methodology appendices to both the Downtown Plan EIR and the Downtown EIR Consultant's Report. (Appendix G - Land Use and Real Estate Development Analysis, and Appendix H - Business and Employment Analysis, in both documents, describe each aspect--supply and demand--of the forecasting methodology.) A list of the major data sources used in the forecasting analysis is provided below:

- Downtown EIR Employer Survey, 1981/82
- C-3 District Land Use Inventory, 1981/82
- County Business Patterns (CBP) past and current employment data for City and region
- Employment Development Department (EDD) historic and current employment data and short-term forecasts for City and region
- ABAG, Long Term Forecasts for the San Francisco Bay Area, February 1982, revised June 1982
- Department of City Planning, "Working Paper I - Downtown Transportation Improvement Program", 1982
- Department of City Planning, List of Projects Under Construction, Approved, and Under Formal Review as of mid-1982
- Department of City Planning, Major Office Building Construction in San Francisco, 1960-1981
- San Francisco Redevelopment Agency, Yerba Buena Center Main Program Alternative

- U.S. Department of Commerce, Census of Retail Trade, 1972, 1977
- State Board of Equalization, "Taxable Sales in California"
- SPUR, "Impact of Intensive High-Rise Development on San Francisco", 1975
- ABAG, Bay Area Office Growth, 1981
- ABAG, Non-Survey Input-Output Model for the San Francisco Bay Region, 1982
- ABAG, "The Growth of San Francisco: Three Futures for the Year 2000", 1982
- San Francisco Chamber of Commerce, "San Francisco: Strategic Plan, Making a Great City Greater", 1982
- Sedway/Cooke, "Downtown San Francisco Conservation and Development Planning Program, Phase I Study", 1979
- John Sanger Associates, "San Francisco Downtown Conservation Study", 1982
- Survey of realtors, developers and other persons knowledgeable about the office real estate market in downtown San Francisco, 1982
- Articles and reports related to the local and regional real estate market, business location decisions, tourism, general economic trends and conditions, and individual industries that are important to the future of downtown San Francisco

As is evident from the variety of sources on the list, not all of the data considered in the forecasting analysis were quantitative. Clearly, no single factor such as an average annual amount of office construction or approvals was the basis for the forecasts (as stated in several comments). Moreover, the factors that were considered, and for which the sources listed above provided data and information, are not "subjective factors". They are standard means of describing and measuring urban economic activity. Pages H.22-H.34 in Appendix H of the Downtown EIR Consultant's Report (incorporated by reference in the Downtown Plan EIR on p. H.2) show how these factors were interpreted and incorporated in the baseline forecast for the C-3 District, 1981-2000, for each of 12 business activities.

Downtown Plan EIR Forecast Approach

The economic forecasts prepared for the Downtown Plan and Alternatives are long-term (1981-2000) forecasts. The methodology was designed to satisfy the area-wide (C-3 District) land use planning purposes of the EIR analysis: comparing long-term planning scenarios for the C-3 District, i.e. the proposed Plan and the five Alternatives. Each scenario has a different forecast. These forecasts can be compared to assess the differences in employment growth and building development under the policies of the Plan and those of each of the Alternatives. This is one of the perspectives of the impact analyses in the EIR.

The long-term forecasts in the EIR are not sensitive to short-term vacancy or business cycle conditions. Furthermore, they are not "historic trend" forecasts or "employment share" forecasts (two terms used in the comments). They represent the most likely future outcomes considering both changes over time in the factors influencing C-3 District growth potential as well as differences in C-3 District land use and zoning policy.

The procedures of the methodology are described in Appendix H of both the Downtown EIR Consultant's Report (pp. H.18-H.48), and (in somewhat less detail) the Downtown Plan EIR (pp. H.6-H.15). Figure H.1 is a summary diagram of the procedure, referred to as the process of "matching" employment and space. Pages G.11 through G.17 in Appendix G of the Downtown Plan EIR describe the basic real estate market interactions on which all the forecasts rely. Figure G.1 (p. G.14) summarizes this discussion. The following paragraphs highlight the important components of the economic forecasting methodology in order to clarify issues raised in the comments.

Identifying Existing Employment In Categories Relating to Demand for Space. The first major component for preparing the forecasts was defining and measuring C-3 District employment in terms that would be useful for identifying the demand for space. One of the results of the analysis leading to 1981 estimates of C-3 District employment was the definition of business activity groups (see pp. H.2-H.5 of the EIR). By linking employment statistics recorded by Standard Industrial Classifications (SIC)* with the type of space occupied and the function carried out in that space, the definition of business activities enabled employment forecasts to be based on analysis of the observed characteristics, growth potentials, and preferences for locations and types of space of the full range of space users in the C-3 District. The Downtown Plan and Alternatives employment and space forecasts were prepared for business activities within office, retail, hotel, industrial/warehouse/automotive/parking, and cultural/institutional/other uses.

The Baseline Forecast. Because of the comparative perspective of the Downtown Plan and Alternatives analysis (what difference would a new set of C-3 District planning policies make for employment growth and real estate development), a baseline forecast of potential economic growth was developed. This is the second major component of the forecast methodology.

The EIR baseline forecast of C-3 District growth does not reflect specific land use policies. It represents the demand for space under certain generalized real estate market conditions. Space in new buildings is assumed to be available; some in the most preferred locations, some in locations becoming more competitive with the preferred locations, and some in moderate rent buildings in less desirable parts of the C-3 District. As in the past, sites in the core of the C-3 District (essentially the financial district) would continue to be more intensively developed; the boundaries of this core area would expand; and some large-scale single-tenant and speculative office development would occur on large sites in more outlying areas. Space in existing buildings in more peripheral C-3 District locations would become more intensively used as the core area expands. Given this long-term supply potential, rents (for different types of space) are assumed to remain at about the levels of the early 1980's, in constant dollars.

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*The Standard Industrial Classification system was developed by the U.S. Office of Management and Budget to provide standard categories for reporting and documenting business and industry activity. The SIC system is used by local, state and federal agencies in reporting economic statistics. (See Office of Management and Budget, Standard Industrial Classification Manual, 1972 and 1977 Supplement.)

For the baseline forecast of employment growth, these assumptions regarding future space availability, location and cost defined some of the forecast parameters. Other inputs were:

- employment growth trends by SIC for the City and region (not available by business activity or specifically for the C-3 District),
- employment forecasts by SIC for the downtown area, the City and region,
- business and industry organization trends and market forces,
- locational preferences of business functions of various types, including consideration of types of space, rents, accessibility, etc.
- future location options elsewhere in the City and region (as evidenced by development proposals and plans),
- interdependence of economic activities (e.g. office and retail, tourism and retail, corporate office and business supply and services).

One of the comments indicates confusion regarding the terminology used to describe the EIR forecasting procedures. In the EIR and in this response, "baseline" forecast does not refer to a "trend projection". As described below, the baseline forecast represents an estimate of C-3 District growth potential that reflects past trends as well as likely future changes in those trends. The sensitivity of this forecast to a range of proposed changes in C-3 District policy was analyzed to produce the EIR forecasts for the Plan and Alternatives. The comment suggests that the appropriate use for "baseline projections" is sensitivity analysis, with the baseline representing "an 'ideal' or maximum level". This is how the baseline forecast was used in this study.

Other comments allege that the average office growth rate for the 1970's was "arbitrarily chosen...for the baseline analysis." This is not true. The comment refers to the annual average rate of new office development in the City from 1965 to 1981 (1.7 million sq. ft. per year over this 17-year period; see p. IV.B.3), most of which was built in the C-3 District. The baseline forecast was not a simple extrapolation of this rate into the future. The assumptions and parameters for the baseline forecast are described above, and the complexities of the analysis of factors affecting C-3 District growth potentials are described in detail in Appendix H of the Consultant's Report (incorporated by reference in the EIR).

A simple trend projection would not have been adequate for the baseline forecast. The need to assess changes over time and to compare the differences in changes over time among different sets of policies required an analysis of likely future outcomes for growth in downtown San Francisco. The basis for this analysis and comparison was therefore assessment of growth potential that considered past trends as well as future changes in these trends.

The resultant annual average rate of office building development in the C-3 District for the 16-year forecast period from 1984 to 2000 is 1.7 million sq. ft. per year for the baseline forecast (see Alternative 1 in Table VII.B.1, p. VII.B.2). That the forecast result (again, not a simple extrapolation) should match the previous trend is not surprising, considering the perspective and assumptions of the baseline analysis: what would be the growth potential of the C-3 District with no major changes in the land use and zoning policies that have governed downtown development for the past two decades (until the imposition of interim controls in the early 1980's).

The comments go on to suggest that it would be more appropriate to use the most recent data on office building development: the 2.5 million sq. ft. of space under construction in the C-3 District between 1981 and 1984. (See Table IV.B.12, p. IV.B.35, or Table VII.B.1, p. VII.B.2.) As described in the EIR and reiterated in this response, the EIR forecasts (baseline and for the Plan and Alternatives) were not based on the extrapolation of a single factor. Even if, for purposes of simple projections, a single factor such as past rate of office development were to be used to predict future conditions, the longer-term rate for 1965 to 1981 would be more appropriate than the short-term rate of construction activity between 1981 and 1984 (4 years) to assess growth over the 16-year period from 1984 to 2000.

The 2.5 million sq. ft. per year of office construction in the 1981-84 projects does not represent space built and fully occupied by 1984. (See pp. IV.B.14-IV.B.16, p. IV.C.26, especially note 20; and the discussion below in this response on the 1984 results.) It is a useful number for demonstrating the rate of construction activity, but not for estimating employment-related impacts (e.g. transportation and housing). In other words, the total amount of employment growth that could be accommodated by these projects occurs over a longer time period. Estimates of annual average office construction presented for later periods in the EIR more closely approximate built and occupied space.

There is not necessarily a direct relationship between annual rates of project approval and annual rates of building occupancy. The relatively high rate of project approvals in the late 1970's and early 1980's reflects both the downtown office boom (market forces), as well as the inclination of developers to secure project approvals prior to expected major changes in downtown zoning. Construction of some of these projects has been delayed and others are having difficulty attracting tenants as the demand for space has not matched the short-term flurry of building activity. Over the long-term, as forecast in the EIR, demand (employment) and occupied space, measured at any particular time (the year 2000, for example), would match. At that particular time, however, there would also be buildings under construction for future occupancy and approved or awaiting approval for a more distant occupancy date. These projects would be included in a statistic measuring future rates of construction activity or approvals. They would not be included in measures of space built and occupied by a certain date. The latter are the annual rates presented in the EIR for the 1990-2000 period in Table IV.B.12 (p. IV.B.35) and Table VII.B.1 (p. VII.B.2).

Forecasts for the Plan and the Alternatives. Alternative 1 (the Planning Code or "No Project" Alternative) is the only set of policies considered in this analysis in which the baseline employment growth forecast would be achieved. The existing Planning Code zoning in the C-3 District would continue under this Alternative. This would result in a future real estate market context most similar to the baseline assumptions and to the conditions that have existed in the C-3 District.

The other Alternatives and the Downtown Plan represent a range of constraints on new development. Therefore, the space supply conditions of each set of policies (availability, location, and cost) as determined by the real estate analysis represent differences from the conditions of the baseline forecast. (See Section V.B, Land Use and Real Estate Development Impacts, pp. V.B.8-V.B.44 in the Consultant's Report and Section IV.B, Land Use and Real Estate Development Impact, pp. IV.B.30-IV.B.54 in the Downtown Plan EIR for discussions of the different effects of the various policies on office, retail, and hotel development potential in the C-3 District and on other issues related to land use change, such as demolition and conversion.)

Analysis of the sensitivity of the various business activities to these supply factors was the basis for the employment forecasts for the Plan and each of the other four Alternatives. This is the third major component of the forecast methodology. Table H.4 on pp. H.23-H.24 and pp. IV.C.31-IV.C.35 of the Downtown Plan EIR present conclusions regarding location preferences for business activities and their relative sensitivity to space costs. The employment forecasts were subsequently used to estimate the amount of new and converted space built and occupied by use and subarea. Consideration of employment densities was implicit in the analysis of sensitivity to supply conditions. Employment densities are relevant not only to the demand for new space, but also to the use of existing space.

The results of this approach, the real estate development, land use, and employment forecasts presented in the EIR (Sections IV.B, IV.C., VII.B. and VII.C), are long-range forecasts. They represent a range of assumptions and parameters as defined by the different C-3 District policies that were the subject of the EIR analysis. The Consultant's Report which presents the results of detailed analysis and forecasts for five C-3 District Alternatives is essentially the "range of studies" that a commenter suggests is lacking.

The relevant Appendices describing the methodology used to forecast growth under the Alternatives (Appendices G and H of the Consultant's Report) are summarized and incorporated by reference in the EIR. The Alternatives sections of the EIR (Sections VII.B and VII.C) present the range of forecast results for the Plan and Alternatives.

The Forecasts Reflect Changes Over Time. An important aspect of the economic forecasting methodology is the incorporation of changes over time in development patterns and the behavior of space users in response to changed conditions under new C-3 District policies. Appendix G of the EIR, pp. G.12-G.17 describes the dynamics of the downtown real estate market and the factors that are likely to change as a result of changes in land use and zoning policy. Demand is expected to gradually adjust to accept new locations for major office development. Changes over time in rents for various C-3 District locations affect the feasibility of new development and the likelihood of accommodating employment growth in new buildings. At the same time, businesses are expected to adjust to space supply constraints (and higher rents) by using space more efficiently. Higher employment densities affect the total amount of activity in the area, separate from the amount of new development.

One comment requests an explanation of the basis for the assumptions and estimates of changes in employment density. The rationale for the assumption that employment density would change over time in response to different space supply conditions is the following. When demand for space is strong and the rate of growth of the supply of space is reduced, then rents for space increase. Tenants will adjust to the higher cost situation by using space more intensively. Analysis of the different employment densities for various C-3 District business activities and functions provided an indication of the range of reasonable densities for users with different spatial requirements. The percentage increases from the densities used in the baseline forecast (5 percent increase for Alternatives 4, 5 and the Plan, 1.5 percent for Alternative 3, and 0.5 percent for Alternative 2) are relative estimates, reflecting the relative difference in office space supply potential and space costs (rents) among the Plan and Alternatives.

The comment questions the apparent precision of these estimates; they appear precise because the percentage increases are small (i.e., a 20 percent or 30 percent increase is not forecast). They are estimates representing the relative differences among the Plan and Alternatives, not "precise" forecasts of future conditions.

It should also be noted that the overall increase in employment density in the C-3 District is not as large as the generalized percentage increase assumptions above suggest. These increases (applied separately to the individual office business activities) are somewhat offset by the density characteristics of the business activities expected to grow. For example, headquarters and executive functions and the professional offices providing corporate services are expected to show the strongest demand for C-3 District space, over time. The employment densities for these business activities are lower than average (more space per employee). (See p. IV.C.45, particularly note 30; p. VII.C.1, particularly note 1; see Table H.3 on pp. H.21-H.22 for comparison of the 1981 employment densities among the detailed office business activities.)

Full-Buildout Analysis. One comment asks about the amount of employment that would occur if the maximum development potential possible under the Plan were to occur. The analysis used for the EIR did not forecast the maximum development possible under any set of policies because that information would lack both a time frame and a citywide and regional context. It is theoretically possible to calculate the maximum building potential on all sites in the C-3 District. This would require assuming that every site in the area which has buildings smaller than the maximum allowed envelope would be replaced with development that would equal the envelop possible under the controls of the Plan. Maximum development could vary depending on assumptions about site assemblage and the use of TDR, among other things. Moreover, there is no way to predict when this buildout might occur (if ever); it could be as far away as 50 years or more. No area of San Francisco has ever reached full-buildout as allowed under the zoning envelope. Since full-buildout is unlikely to occur, the estimates of maximum potential development are of academic interest at best.

Analysis of the impacts of the growth of space represented by the maximum buildout calculation would require estimates of the employment growth accommodated by that space. Employment forecasts based on analysis of local, regional, and national conditions become less reliable as they span a longer period of time. Thus it would be difficult to place much reliance on estimates of the future number of employees who would occupy space in the C-3 District at full-buildout as a reasonable or useful forecast for the purposes of assessing housing market or transportation impacts.

As the EIR notes (p. II.3) it is difficult, if not impossible, to predict the availability and types of regional transportation systems, energy, housing and other resources at the level of detail needed for impact assessment beyond 2000. Fifteen to twenty years is generally accepted as a reasonable time frame within which to make these forecasts. The EIR time frame is 16 years--to the year 2000. All of these things (employment growth, housing, transportation systems, etc.) must be interrelated in order to provide the kind of detailed environmental analysis required. Estimates of "full-buildout" of the entire C-3 District would not provide as useful an analysis as is presented using a reasonable 16-year time frame. Before full-buildout occurs, substantial changes are likely to have happened in zoning and development controls in San Francisco and elsewhere in the region (among other things) which would present a very different context for both forecasts and impact assessment.

Discussion of Downtown Plan EIR Forecast Results

Another series of comments on the Downtown Plan economic forecasts address the results of the analysis. This section of the response is organized according to forecast period: 1984, 1984-1990, and 1990-2000. What the EIR forecasts represent is explained and specific issues raised in the comments are discussed.

1984. The EIR establishes an analytical base case for 1981/82 (when C-3 District data collection was undertaken) from which the environmental setting for 1984 is estimated. The 1984 data presented in the EIR are forecasts; the most precise estimate of base case C-3 District conditions are the data presented for 1981/82. The 1984 setting for land use and real estate development accounts for C-3 District projects under construction as of mid-1982, space demolished preparatory to this construction, and the estimated conversion of some space to office use. (See pp. IV.B.14-IV.B.17 in the Downtown Plan EIR). The 1984 setting for business and employment reflects three years of the longer-term growth forecast between 1981 and 1990. The forecast was not sensitive to short-term business cycles. Due to the timing and extent of the 1982-83 recession, actual 1984 employment in the C-3 District is probably below that forecast for the 1984 setting, as noted in the ABAG comment and in the Draft EIR (see p. IV.C.58, note 20).

The EIR text cited above describes the recent office market context for the large amount of space in projects under construction as of mid-1982. All of this space is assumed to be built by 1984 and is included in the 1984 land use and real estate setting. Not all of the space would be fully occupied by that time, as not all would be absorbed by the 1981 to 1984 employment growth forecast. Therefore, the 1984 employment setting shows less employment than it would if it were assumed that all the space built by that time would also be occupied. About 2.2 million sq. ft. of the total net addition of 6.7 million sq. ft. of space between 1981 and 1984 would not be absorbed. The short-term over-supply of space is accounted for in absorption during the 1984-1990 period.

Because of the extent of the recent recession, even less space was probably absorbed than shown in the Draft EIR estimates. As noted in the comments, some of the projects on the mid-1982 list are not fully occupied in mid-1984. This contributes to higher office vacancy rates in the C-3 District.

Lower actual employment growth than estimated for the 1981 to 1984 period does not change the total long-term forecast to the year 2000. More employment growth would occur in the 1984 to 2000 period, and, therefore, there would be some differences in the amount of employment used for impact assessment. Relative to the employment growth totals, however, the short-term variation around the 1984 estimate is too small to be of consequence for the impact assessments presented in the EIR.

1984-1990. The 1984 to 1990 forecasts of employment and space are the same for the Plan and all Alternatives. Projects approved and the Main Program Alternative for Yerba Buena Center provided the next indications of the real estate context for the employment and development forecasts. As noted in the comments and in the EIR (p. IV.B.23), there is a large amount of space in this category: 13.5 million sq. ft. of new space in approved projects and YBC. Generally, changes in land use policies would not apply to the majority of these projects, on which decisions have already been made. (See pp. IV.B.23-IV.B.27 in the Downtown Plan EIR.)

The baseline employment forecasts to 1990 indicate that this amount of space would be absorbed by the late 1980's. In other words, development and planning decisions already made (based on strong office market conditions, on current Planning Code provisions and in anticipation of expected changes in C-3 District zoning) will accommodate the employment growth forecast through most of the 1980's. Changes in C-3 District policy, such as the proposed Downtown Plan or Alternatives 2-5, would not have a noticeable effect on the rate of growth of economic activity (both development and employment) until near 1990. The last decade of the forecast period is, therefore, the time when the effects of the different policies can be compared among the different forecasts. (See p. IV.B.21.)

This is not to imply that project planning and approvals would not continue during the late 1980's. Presumably, the process would continue with decisions reflecting the new C-3 District policies after they are adopted (expected in late 1984). Given the average time period between project approval and project occupancy, these projects would come on line in the late 1980's under normal circumstances. This includes projects currently under review that could be approved if consistent with new planning policies or would be replaced by proposals not yet under consideration. Some space in projects such as these would be absorbed by 1990. The amount of space in these projects would not be large enough to show overall differences among the Plan and Alternatives in the amount of growth in the C-3 District.

1990-2000. The forecasts of employment and space for the 1990 to 2000 period show the differences between the baseline conditions (Alternative 1) and the changes in policy incorporated in the Downtown Plan and Alternatives 2-5. The employment forecasts represent the number of employees that would be working in the C-3 District, while the space forecasts represent the amount of space required to accommodate these employees.

As mentioned above, and explained in detail in the EIR, the proposed Downtown Plan and Alternatives 2-5 represent, in varying degrees, more constrained situations for downtown development than does the current Planning Code (Alternative 1). The development scenarios for each set of policies reflect different conditions for the availability, location, and cost of space in the C-3 District. The prime example is the Downtown Plan, under which it is assumed that it would take time for the market to adjust (for demand to be strong enough) to support a substantial shift in the location of major new development from the financial district to the proposed Special Development District. This is indicated in the relatively low rates of space forecast to be built and occupied during the 1990-2000 period under the Downtown Plan. This is not a "boom and bust" cycle (as suggested in the comments); it reflects the different real estate conditions for C-3 District development that would exist under the Plan. These are described in detail in the EIR, Section IV.B, pp. IV.B.36-IV.B.41. In general, under the Downtown Plan, buildings would be smaller and the amount of C-3 District space built each year would be less than in the past.

The differences in rates of office construction and absorption (both over time and among the Plan and Alternatives) are only part of the story of the effects of changed policies on economic activity in the C-3 District. The differences in these rates indicate that there would be differences in the levels of construction activity. The differences in terms of employment growth (and, consequently, housing and transportation impacts) would not be as great.

As a consequence of the assumption that employment densities would increase depending on the availability and cost of office space in the C-3 District, the differences in the office employment forecasts among the Plan and Alternatives are not as great as the differences in the office space forecasts. Applying the office employment density factors to both new space and the relatively large amount of existing office space in the C-3 District narrows the differences among the employment forecasts and the related impact assessments. In other words, there is more employment growth forecast for the C-3 District under the more constraining policies (Alternatives 2-5 and the Plan) than would be the case if employment densities were assumed to remain constant under all conditions. There is, consequently, more employment factored into the housing and transportation impact assessments than would be the case, assuming constant densities. As a result, the EIR assesses the "most severe" or "worst case" impacts of a potential range of forecast assumptions.

Presentation of 1984-2000 Changes. Comments submitted on the Downtown EIR Consultant's Report requested that the tables be restructured to show the total changes forecast for the 1984 to 2000 period. Consequently, the information presented in the land use and employment impact sections of the EIR was expanded to include the overall change from 1984-2000.

For the land use and real estate development forecasts, see Table IV.B.11 (p. IV.B.34) and Table IV.B.12 (p. IV.B.35). For the employment forecasts, see Table IV.C.16 (p. IV.C.42). The summary tables for each of these sections also show the 1984-2000 percentage change information. (See Table I.B.1, p. I.B.2 and Table I.C.1, p. I.C.2.) The Alternatives section of the Draft EIR includes tables showing 1984, 1990 and 2000 totals for the Plan and five Alternatives. The percentage change from 1990 to 2000 is also shown to highlight the comparison between the different sets of policies, because this is when the effects of new C-3 District policies would become evident.

B.1.2 Comparison to Other Forecasts and Projections

Many of the comments refer to other estimates of future development and economic activity in downtown San Francisco. Specifically, information on recent rates of building development and project approval, as well as ABAG employment forecasts are used to demonstrate certain points related to the Draft EIR forecasts. Measurements of building development activity (average annual amounts of space approved or constructed) are used in the comments to support the contention that the Draft EIR forecasts are too low. On the other hand, ABAG presents employment forecasts to argue that the Draft EIR forecasts are too high. The following discussion assesses the validity of these comments and addresses the reasons for the differences noted in both directions.

Comparison to Recent Absorption and List of Proposed Projects

Several comments on the Draft EIR forecasts compare the annual average rates of office building development forecast for the C-3 District under the Downtown Plan (1.1 million sq. ft. per year between 1984 and 2000, or 840,000 sq. ft. per year between 1990 and 2000) to the recent past (1.7 million sq. ft. per year built from 1965-1981 and 2.5 million sq. ft. per year under construction from 1981 to 1984), and to the amount of space in projects under construction, approved and under review (the City's list of cumulative downtown office development). As explained above, the recent rate of project approvals and construction is not typical, due to cycles in the downtown office real estate market; therefore, a short-term rate (such as the 1981-1984 rate) is not an appropriate long-term indicator. Moreover, rates of construction or approval are not directly comparable to estimates of the average annual amount of space built and occupied (absorption) that are presented in the EIR forecasts. Future employment growth potential (in both existing and new space) is not incorporated in the measurements of space constructed or approved. Further, as explained in the first section of this response, the policy and real estate market conditions influencing space supply will change with the change in C-3 District planning policies; this is not captured in measuring recent or past trends. As a consequence of these policy changes, the EIR forecasts for the Plan and Alternatives 2-5 reflect slower rates of building development in the C-3 District to the year 2000, than occurred in the past.

The data referred to in the comments were considered in the economic forecasting methodology. The cumulative list of downtown office development includes all of the projects approved for the C-3 District that are accounted for in the EIR absorption forecasts for the 1984 to 1990 period.

In addition to C-3 District projects, the list includes Redevelopment Agency projects and other projects located outside the C-3 District, in south of Market Street areas, the Northern Waterfront, Washington/Broadway Special Use District, and Civic Center areas. The list was useful in assessing the likelihood and potential amounts of major new development outside the C-3 District. The larger geographic coverage explains why the amount of space on the list is large compared to the C-3 District forecasts.

The amount of space in C-3 District projects on the list is not larger than the EIR forecasts. The 13 million gross sq. ft. of net additional office space in C-3 District projects on the most current list (March 10, 1984) is less than the 17 million gross sq. ft. of net additional office space forecast for the C-3 District between 1984 and 2000 under the Downtown Plan (see Table IV.B.11). In the Downtown Plan forecast methodology, the end of the cumulative list is not the end of the forecast. The methodology and analysis provides a means of estimating total development and absorption to the year 2000, which is forecast to be more than is accounted for in projects already proposed.

Furthermore, the Downtown Plan EIR forecasts reflect the total space supply conditions in the C-3 District: this includes new buildings as well as the use of existing space. Therefore, the EIR forecasts reflect more office employment growth than would be accommodated by the net addition of office space. This is an important consideration because many of the impact assessments in the EIR are based on employment, not on space.

It is interesting to note (relative to comments that the Draft EIR forecasts are too low) that, although the cumulative list for the greater downtown area contains more space than would be absorbed only in the C-3 District between 1984 and 2000, there is more employment forecast in the EIR for the C-3 District alone than would be estimated for the greater downtown area using the projects on the list and appropriate employment density factors as the basis for a set of employment projections. In other words, the EIR forecast method shows more employment for the C-3 District alone than the list of projects would show for the entire greater downtown area.

Finally, using forecasts of growth rather than a list of specific projects is contrary neither to the spirit nor the letter of CEQA and the State CEQA Guidelines. Use of forecasts permits the long-range view necessary to assess the likely effects of the proposed Downtown Plan and compare these effects with those of other Alternative zoning/planning scenarios (including the No Project Alternative--Alternative 1). A list of specific development project proposals would not reflect any of the differences among the six C-3 District proposals studied and would not provide the long-range view most appropriate when assessing impacts of an area plan rather than a development project.

Comparison to ABAG Forecasts

The comments received from the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) on the Downtown Plan Draft EIR are primarily addressed to the C-3 District employment forecasts prepared for the Downtown Plan analysis. The first section of this response explains why specific forecasts were prepared for this study, rather than using local area forecasts generated as part of ABAG's regional forecasting effort. The second section references the data sources and information used to complete the forecasts. The third section explains that the Draft EIR forecasts are not "historic trend" or "employment share" forecasts. ABAG's main concerns with the C-3 District forecasts are that the employment growth is too high. (The difference in 1984 employment estimates is relatively small and is explained, as noted above, by the long-term nature of the Downtown Plan and Alternatives forecasting methodology.)

Contrary to the implication of ABAG's comments, other comments suggest that the EIR forecasts relied too heavily on "inputs from regional forecasting models...which cannot produce reliable results on a disaggregated, community-by-community basis". As this response (citing the regional agency's disagreements with the EIR forecasts) demonstrates, the regional agency forecasts for downtown San Francisco were not used as the basis for the EIR analysis and forecasts. The comment's statement that regional-level forecasts would not be adequate for the more specific requirements of this study--forecasts for a sub-area of the City of San Francisco that are sensitive to proposed changes in local policy---is correct. This is why ABAG's forecasts were only used to provide regional growth parameters. (See Section B.2 of these responses for more discussion of the basis for the citywide and regional contexts used in the EIR analysis and how they were incorporated in the forecasts.)

Appendix H in both the Downtown Plan EIR and the Downtown EIR Consultant's Report provides a comparison of the C-3 District forecasts prepared for this study and the publicly available ABAG forecasts for the total City. The "Working Paper I" forecasts for the Downtown area (based on ABAG citywide forecasts) are also compared to the C-3 District forecasts. Pages H.50-H.54 in the Downtown EIR Consultant's Report (incorporated by reference in the Downtown Plan EIR, see p. H.2) present a detailed discussion of the major differences in approach and of the explanations for the different growth rates. Table H.10 presents a comparison of the employment forecasts by sector.

Examination of these differences is interesting, in light of ABAG's comments on the Draft EIR and the agency's revised citywide employment forecasts published in Projections '83. The earlier ABAG citywide forecasts (used in "Working Paper I") reflected growth rates contrary to the patterns cited recently by ABAG in their June 1, 1984 comment on the Draft EIR. As stated in ABAG's June 1 letter, "San Francisco and the C-3 area is expected to lose a large number of jobs in communications and utilities over the next several years, due to facility expansion and transfer...The type of jobs that San Francisco will attract will be corporate support, marketing services and headquarters operations." ABAG's earlier citywide forecasts for the transportation, communications, and utilities (TCU) sector showed higher growth rates for this sector than for any other SIC group, while the EIR C-3 District forecasts reflect decline in the utility functions which are expected to move and expand outside San Francisco and growth in the non-utility office activities in this group. On the other hand, ABAG's earlier citywide forecasts by sector showed dramatic decline in manufacturing and wholesaling, whereas the EIR forecasts show growth in the office activities in this sector (e.g., corporate headquarters and marketing functions, import/export businesses).

ABAG's recent comments on the Draft EIR forecasts and the growth rates reflected in the agency's revised citywide employment forecasts by sector published in Projections '83 (after the Consultant's Report describing the C-3 District forecasts was published) are consistent with growth patterns presented in this EIR. ABAG's revised citywide TCU forecasts now show a growth rate even lower than that for the C-3 District. The ABAG forecast for the manufacturing SIC now shows some growth, and the forecast for the wholesale trade SIC shows a slower rate of decline than the earlier forecast. The differences between these revised forecasts and the C-3 District forecasts (generally higher rates of growth for the C-3 District) can be explained by the fact that it is the downtown office functions that are expected to grow in these sectors, while the industrial functions located elsewhere in the City would experience continued decline.

In their comment, ABAG mentions these expectations related to the future business and industry composition of San Francisco's economy in the context of implications for the future occupational distribution. The occupation forecasts for C-3 District employment presented in the EIR (Table IV.C.17, p. IV.C.51) and Table VII.C.4, p. VII.C.8)) reflect the changing mix of business activities over time as described above. Occupation distributions for each different office business activity in the C-3 District were provided by the C-3 District Employer Survey. As employment in these business activities grows at different rates, the future overall mix of occupations in the C-3 District differs from the past. (See pp. H.17-H.18 for more discussion of forecasts of job characteristics.)

Although it appears that ABAG's revised forecasts of employment by sector in San Francisco are more consistent with the EIR forecasts for the C-3 District in terms of future growth rates than earlier ABAG forecasts, differences in the total amount of employment growth remain. The differences in rationale are discussed below. The data presented by ABAG in their June 1, 1984 comment on the Draft EIR is used to assess the implications of accepting ABAG's scenario for future C-3 District development.

It is true, as noted in the ABAG comment, that most of the long-term development potential of the City of San Francisco lies south of Market Street. The C-3 District forecasts prepared for the EIR analysis include substantial development in the C-3 District areas south of Market Street [especially in Subarea 2, the proposed C-3-0(SD)]. Shifts of office activities south of the C-3 District could also accelerate in the future, depending on City policies in these areas. (See pp. IV.B.54-IV.B.58 and IV.C.47-IV.C.49 in the Downtown Plan EIR.) Because most of the long-term development potential is no longer centered on the financial district, however, does not imply that C-3 District employment growth would slow as dramatically as implied by ABAG. There is still substantial development potential in the south of Market parts of the C-3 District (allowing for both areas of office expansion and areas where existing uses would be protected as proposed in the Downtown Plan and the South of Market Industrial Conservation Special Use District). Further intensification of activity in the core area (through higher employment densities) also supports the levels of growth forecast in the Downtown Plan EIR.

In responding to ABAG's comments which compare their employment forecasts to the Draft EIR employment forecasts and conclude that the Draft EIR forecasts are too high, it is also instructive to consider the implications of ABAG's forecasts for the absorption of space in the C-3 District. From data presented in the ABAG comment (p.2), it appears that their forecast of C-3 District employment growth from 1980 to 2000 is about 42,000 for the C-3 District. Applying the Downtown Plan employment densities to the ABAG employment forecasts provides an estimate of the amount of future development implied by the ABAG forecast. The result of this calculation (42,000 office employment growth x 268 gsf per employee*) is an increase of about 11 million gross sq. ft. of office space for the C-3 District. (This simplified calculation assumes all of the growth is office employment and does not account for changes in the use of existing space. Therefore, the resultant estimate is greater than if a more complicated analysis were done.)

The office space and employment forecasts in the EIR indicate that almost 14 million gross sq. ft. of new office development would be absorbed between 1981 and 1990. All but about two million sq. ft. of this amount is in projects under construction or approved in the C-3 District, including Yerba Buena Center projects. The calculations using ABAG's employment forecast (above) indicate absorption of only about 11 million sq. ft. of office space between 1980 and 2000. Under ABAG's growth scenario (considerably less growth than forecast in the EIR), the conclusion is that there would be essentially no more new office development in the C-3 District between now and the year 2000 than is already approved for construction.

The contrast between comments suggesting the EIR forecasts are too low or too high suggests that the impact EIR analysis employed a reasonable worst case scenario. The ABAG forecasts would not satisfy this need to provide worst case estimates, while use of growth rates similar to the immediately preceding four years would provide unrealistic and misleading information.

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*Estimates of office employment density in 2000, per Downtown Plan analysis (255 gsf per employee), plus five percent vacancy.

B.1.3 Validation of the Downtown Plan EIR Forecasting Model

Several of the comments on the Downtown Plan Draft EIR request that the economic forecasting "model" be tested using data from earlier years to see if the "model" would predict current or past conditions.

The Downtown Plan EIR approach for forecasting future land use and employment is based on a conceptual framework of the process of urban economic development. The analytical procedures incorporate a variety of types and sources of data and information concerning past, current, and likely future conditions regarding economic, real estate, demographic, and public policy factors. The forecasting process does not involve a set of calculations or equations which could be computerized and used to predict future conditions for a future year based on the input of data for a prior year, as is suggested in the comments. (The Isserman article in the Spring 1984 Journal of the American Planning Association is a good reference for the rationale and uses of the type of forecasting done for this EIR.)

The type of modelling that the comments describe would be more appropriate for economic forecasts done for specific industries or for large geographic areas. For these types of forecasts, there would be a much better data base as well as much less concern about the location of facilities and the effect of local policies on location options. For the Downtown Plan EIR, the forecasting effort had to focus on an area and an industry (the office sector) for which very little published data are available, and on factors which cannot easily be translated into quantitative terms. Further, the forecasts had to be developed to be sensitive to the effects of site-specific local land use policies which had not yet been enforced or reflected in recent development and employment patterns and statistics. (See J. Thomas Black, Donal O'Connell, and Michael Morina, Downtown Office Growth and the Role of Public Transit, Urban Land Institute, 1982, for a discussion of the difficulties of measuring trends in office location and predicting the determinants of office growth.)

The same conceptual framework and analytical methodology could be used to forecast current conditions based on information available at an earlier time. However, it would not be a process of simply "inputting" data for a particular year and getting forecasts as the "output". Moreover, it would not validate the future forecast. Using the same framework would only show that standard, commonly-known urban economic theory and principles could be combined with available data and information to replicate the past. This would merely validate the theories and principles, but they have been validated by many experts over the time they were developed. This would also be a time-consuming and costly effort. Extensive data collection and analysis were done to validate the description of 1981 conditions, the starting point for the forecasts. In the course of the forecasting analysis there was on-going evaluation of the relevant factors and the assumptions made about those factors. Explanations for the patterns reflected in the forecasts were compared with explanations for recent and past trends, as well as with the rationale behind other available forecasts. The analysis also included evaluating how changes in the assumptions about key factors would affect the results.

The descriptions of the methodology and the forecasts in the EIR and in this response provide readers with background and information upon which to make their own evaluations of the approach and its forecasts. In addition, the comparison of the Alternatives provides five different forecasts and highlights the "sensitivity" of the numbers to different assumptions about local land use policy.

B.1.4 Miscellaneous Methodology Issues

B.1.4.1 Assessment of Recent Employment Data

The EIR analysis is based on C-3 District data collected in 1981 and 1982 when the study began. The 1984 estimates in the EIR are forecasts, not actual measurements of activity. A comment requests more recent actual data to compare to the forecasts.

No other studies have measured more recent employment and land use conditions in the C-3 District. Citywide employment estimates are now available for 1982 and (on a preliminary basis) for 1983 from the State Employment Development Department. As expected due to the effects of the recession, there appears to have been no overall growth in total San Francisco employment from 1981 to 1983. It is interesting to note, however, that some sectors have continued to grow. The data for finance, insurance and real estate, services, and retail trade show net growth offsetting declines in other sectors. The growing sectors are those most likely to be concentrated in the C-3 District.

B.1.4.2 "Working Paper I" Was Not the Base Document

The Department of City Planning document, "Working Paper I: Downtown Transportation Improvement Program", was not the basis for the economic forecasts or the transportation analysis prepared for the Downtown Plan EIR as suggested by a commenter. An independent analysis of C-3 District employment in 1981 was conducted based on the Downtown EIR Land Use Inventory and Employer Survey, and long-term employment forecasts for the C-3 District (to the year 2000) were prepared that were specific to the land use policies of the Downtown Plan and the five Alternatives. These forecasts considered all available data and information on local and regional employment: past trends, changing conditions in the regional distribution of employment, and other long-term forecasts, such as those prepared by the Association of Bay Area Governments (ABAG) for San Francisco and the region, as well as "Working Paper I" projections for downtown San Francisco (an area larger than the C-3 District). Appendix H of both the Downtown EIR Consultant's Report and the Downtown Plan EIR includes comparison of the C-3 District 1981 estimates and future forecasts to estimates and forecasts prepared for "Working Paper I". The comment also asks several specific questions regarding the basis and assumptions for the Working Paper I projections. These questions are not answered here because they are irrelevant since Working Paper I was not the basis for the EIR forecasts. (See responses to comments on transportation in Sections E.1.1 and E.2.2.2 for more discussion.)

B.1.4.3 Differences Between Past Rates of Growth and Forecast Rates of Growth for Selected Sectors

A comment questions the growth rates implicit in the 1981-2000 baseline forecasts for C-3 District employment growth in finance, insurance and real estate (FIRE) and business and professional services. The comment compares the forecast growth rates on p. H.9, Table H.2, of the Downtown Plan EIR (1.9% per year, compounded, for FIRE and 3.9% per year, compounded, for business and professional services) to the historic (1972-81) citywide growth rates for these categories shown on pp. IV.C.13-IV.C.14, Table IV.C.6, of the EIR (3.68% per year, compounded, for FIRE and 6.64% per year, compounded, for all business and professional services and 8.55% per year, compounded, for the fastest-growing categories within the sector: business services, legal services, and miscellaneous services).

The rate of growth forecast for the C-3 District is slower than the past trends for these categories in the City. Generally, the high growth rates of the 1970's reflect a nationwide trend in the expansion of the business, legal and financial services sectors of the economy. (See U.S. Department of Commerce, 1984 U.S. Industrial Outlook, especially special feature on "Growth Trends in the Service Sector".) The recent growth of office development in downtown San Francisco largely reflects this trend. The main reasons for the slower forecasts are the following:

- Trends of the 1970's (dramatic increase in regulations and litigation) which support financial, legal, and accounting services will slow in the future.
- Spatial requirements, labor needs, and changing technologies for large-scale operations will result in some move-outs and future expansion outside the C-3 District for major financial and insurance organizations, as space in the C-3 District remains more expensive relative to suburban locations.
- Smaller business service firms with less need for a central location will seek more outlying City locations, as well as locations in other Bay Area cities, because of the relatively high rents for space in the C-3 District.
- Some support services will become more dispersed throughout the region to serve developing residential and business centers elsewhere in the Bay Area.

It is also important to note that it becomes increasingly difficult to sustain a high compound rate of growth over the long term. The comment compares a nine-year trend with a 19-year forecast. The amount of growth in the future could be similar to that in the past (or even higher than in the past) and still represent a lower rate of growth over time, since each year's addition would represent a smaller percentage of the ever-increasing total.

The slower rate of growth should not obscure the fact that the forecasts indicate a substantial amount of growth of employment in these business

activities in the C-3 District. Employment in business and professional services is expected to more than double (from 40,650 jobs in 1981 to 84,750 jobs in 2000) and employment in FIRE is expected to increase by 44 percent (from 68,580 in 1981 to 98,630 in 2000) under the baseline forecast. Thus,
growth of employment in FIRE and business and professional services would represent the majority, 60%, of total C-3 District employment growth between 1981 and 2000, under the baseline forecast. The percentage of total C-3 District employment represented by these categories would increase from 40% in 1981 to 48% in 2000.

B.1.4.4 The Role of "Flight Capital"

A commenter asks for discussion and consideration of the effect of non-local sources of capital (referred to generally as "flight-capital" in the comments) on office building construction in San Francisco. Foreign investors from Hong Kong, Canada, and the Middle East, as well as other U.S. investors (e.g. from Texas) have been active in San Francisco's real estate market and in other real estate markets in this country for the past decade and may continue to be active in the future. The expectations of these different investors for the use and returns on their investment vary; no one pattern predominates.

Some foreign investors see the U.S. as a safer place for investment than other options. This is true currently because of both the strength of the dollar relative to other currencies and political uncertainties in places such as Hong Kong. The Asian community, in particular, has traditionally been interested in San Francisco, and this is expected to continue.

San Francisco's downtown real estate market has been and will continue to be an attractive investment opportunity. While there are many reasons behind the availability of investment capital in San Francisco's office market, ultimately continued investment depends on financial return and the demand for space. Even "flight capital" will not be invested in San Francisco, if, over the long term, there is no demand for space. The long-term EIR forecasts are based on the demand for space. Flight capital and other investment will provide the space needed for forecast employment growth. It does not add to the demand for space.

B.1.4.5 Differences Between EIR Forecasts and Downtown Plan Estimates of Potential C-3 District Growth

A commenter asks why the Downtown Plan says that over 20 million sq. ft. of office space could be added in the C-3 District, while the EIR forecasts for the Downtown Plan show 16.8 million sq. ft. added between 1984 and 2000. The Downtown Plan was prepared prior to the EIR analysis of the Plan. The estimates presented in the proposed Plan were more generalized than the forecasts specific to the Plan that were prepared for the EIR; the Plan estimates were based on analysis of building development potential under the five C-3 District Alternatives analyzed in the Consultant's Report, which differ, in varying degrees, from the proposed Plan. Subsequently, the specific policies of the Plan were analyzed for the EIR. The forecasts of office space presented in the EIR reflect that detailed analysis of the effects of the policies on the office real estate market.

The Downtown Plan is being reprinted with all estimates changed to be consistent with the data and forecasts in the Downtown Plan EIR.

B.1.4.6 Forecast Results as Basis for Annual Limit on Approvals

A comment extrapolates from the EIR forecasts of office space that the rate of project approvals in the late 1980's and through the 1990's would be about 660,000 to 840,000 sq. ft. per year. Under the Downtown Plan, the average rate of C-3 District construction would be slower than in the past. The EIR forecasts cannot be directly translated into annual rates of project approval, however. The amount of office space presented in the EIR forecasts represents built and occupied space. The amount of space approved would be somewhat higher. By 2000, there would be projects approved in the late 1990's that would not yet be built and occupied. This amount of space is not accounted for in the average annual figures derived from the EIR forecasts. Moreover, these are long-term averages and could vary from year to year.

B.1.4.7 Adjustments to the Cumulative List

The comments request more information about the cumulative list of major office projects in order to develop a measure of future development to compare to the EIR forecasts. One of the comments requests data from the past five years for projects that have been dropped from the list (i.e. proposed but withdrawn before approval). The comment suggests that this data would remove the objections to the list-based methodology as a means of forecasting future growth. Establishing an average "fallout" rate from past lists could provide a means of adjusting current lists to reflect the probability that not all projects would be built as proposed. This would not address the more significant differences between the EIR forecasting methodology and the list:

- The EIR methodology assesses the effects of future changes in land use policy and zoning; the list does not.
- The EIR methodology results in long-term forecasts of both employment and space that are sensitive to changing real estate market and business conditions; the list does not.

Considering that the purpose of the Downtown Plan EIR was to measure the long-term changes over time in the C-3 District as a consequence of changes in planning policy (the proposed Downtown Plan and the five Alternatives), a list that includes only projects proposed under the conditions of the existing policies would not provide complete information useful for the EIR analysis.

A comment requests that a list be provided of all projects removed from cumulative lists of projects in downtown San Francisco for the past five years. The lists of office projects, including those under construction, approved, and under formal review, have not been used for cumulative environmental impact analysis for five years. These lists were begun in early 1982, with more general compilations used in 1981. Before that, a more limited analysis of projects approved and under construction was used.

Reviewing the more lengthy lists, those containing projects under formal review, is the most reasonable approach for determining projects removed, since approved projects and those under construction are less likely to be abandoned by developers. It is important to note, however, that there are several projects approved in 1980 or 1981 which had not yet begun construction as of mid-1984. Developers have not been willing to acknowledge abandonment, and so these projects remain on the list, but they become less certain as the approvals get older.

The following projects which appeared on early 1982 lists have since been withdrawn or become inactive (no action by developer in over one year on project under review) and therefore were removed from the list and files were closed: Russ Tower, 392,900 net new sq. ft. office; 980 Market, 357,000 gross sq. ft. office; Franklin/McAllister, 53,600 gross sq. ft. office; 1049 Market, 108,800 net new sq. ft. office; UCB Bank, 61,900 net new sq. ft. office; 401 6th St., 7,000 net new sq. ft. office; 548 5th St., 250,000 gross sq. ft. office; Greyhound Co. offices, 200,000 gross sq. ft. office; 650 7th St., 127,300 gross sq. ft. office; National Maritime Union, 80,000 net new sq. ft. office. In addition, since the most recent list was prepared, other projects have become inactive (although they remain on the list because so few new applications have been received that the totals have not changed): the 562 Mission Street (Lincoln Plaza), at 476,300 net new sq. ft. of office space, was withdrawn in May, 1984; 1171 Sansome, at 30,000 net new sq. ft. of office was disapproved by the City Planning Commission in July, 1984.

In addition to these, there are obviously projects which were filed and then abandoned before the cumulative lists were formalized. For example, an application was filed in 1979 for an addition to Fox Plaza (142,000 sq. ft.); the application was abandoned in 1981 and the project never appeared on the cumulative lists. Similarly, 275 Stuart (207,000 sq. ft.) was in review for some time but was abandoned by 1981. Other projects were applied for but were withdrawn or revised before they were added to a list (for example, a 49,000 sq. ft. office project at 2nd and Harrison was withdrawn and changed to a parking lot). Thus, the group of projects removed from cumulative lists over the past two years does not provide a complete picture of project applications which were later abandoned for any reason. It is also not appropriate to compare the totals of the removed projects with a total of all projects on the list because the various lists overlap considerably, but projects were removed at different times over the two years. Finally, the two year time span is not a long enough period to provide statistics enabling conclusions such as "x% of applications filed are later abandoned, withdrawn, disapproved or never built." It would require a very long term study to provide such information and the resultant information would not affect the analyses provided in this EIR about C-3 District employment and space forecasts because the forecasts are not based on lists of applications.

B.1.4.8 Disadvantages of the EIR Forecasting Methodology

The EIR presents a brief comparison of the forecasting methodology developed to analyze the Downtown Plan and Alternatives to the list-based approach that has been used to assess cumulative impacts in project EIRs. (See pp. II.9-II.11.) Compared to the list-based approach, the EIR forecasting methodology is more complex. It requires both more time and greater costs to develop these forecasts than it does to add up the amount of space in projects on a list and to convert space to employment through the use of density factors.

B.1.4.9 Correction in Background and Introduction Section

A comment points out an inconsistency between forecast data presented in the Background and Introduction Section of the Draft EIR and the forecasts discussed in the Impact and Alternatives sections. The numbers shown in the Background and Introduction section (p. II.11 of the Draft EIR) are incorrect. The second sentence of the first complete paragraph on this page should be revised as follows (revisions underlined):

> "For example, this EIR estimates a growth in office space of 8 million square feet from 1984 to 1990 and another *7* to *16* million square feet from 1990 to 2000, depending on the planning alternative selected."

B.1.4.10 Background Information for Real Estate Analysis

One comment requests that background work papers for the real estate analysis done for the Consultant's Report be made available for public review. The comment specifically refers to the computer analysis of real estate feasibility. The material requested is available for review at the Department of City Planning, 450 McAllister St., San Francisco, 5th floor.

The description of the real estate analysis in the comment is not correct. In particular, the real estate analysis is *not* a "study done on increased land values by lot-by-lot surveys, to figure the profit margin for new office construction" as stated in the comment. As described in the Consultant's Report, "the information generated by the computer analysis provided *relative rankings* of sites in terms of their likelihood of development under different conditions regarding future C-3 District land use policies" (p. G.7) (Emphasis added). The Consultant's Report also states that "this information was used as input to the forecasting of office development in the 1990 to 2000 period under each Alternative" (p. G.7). The Consultant's Report text on pages G.2-G.9 explains the real estate feasibility analysis in terms of its purpose, the type of information it provided, and the use of that information in the forecasting process.

In response to the comment, it is important that the reader understand the following three points. First, that the computer analysis was *one* of the steps involved in forecasting future office development. Thus the requested information represents interim work papers. It is *not* a separate study as implied by the comment. Further, the office development forecasts are not a direct result of the feasibility testing done with the computer model. Rather, the computer analysis was input into the forecasting process.

Second, although the computer analysis was run on a lot-by-lot basis using the Downtown EIR Land Use Inventory, the inputs and results are not applicable to the specific conditions of individual sites. For example, the assumptions about rents were made for various rent areas and for only two types of space: new space and old space. All sites within a rent area were assigned these average rents in the tabulations, without regard to the specific characteristics of individual sites and buildings. Lot-by-lot surveys were not done to develop specific data for each parcel as implied by the commenter.

Third, the purpose for the real estate feasibility testing was to develop relative rankings of sites in order to discern how the policies of the Alternatives were likely to affect C-3 District development. The purpose was not to identify "profit margins" as stated in the comment. The value gain ratios shown on the requested computer print-outs provide a means of ranking types of sites and locations. The dollar amounts or the percentage ratios per se are not important. Rather, it is the comparison of these ratios (to determine which are higher and which are lower) that is important. In the real estate analysis, the value gain ratios provided an indicator of the likelihood of development when (1) ratios for one portion of the C-3 District were compared to those for other parts (such as north and south of Market Street, east and west of Kearny Street, etc.), (2) comparisons of value gain ratios for the same areas were made among Alternatives, and (3) value gain ratios for sites with smaller existing buildings were compared to those for sites with larger buildings. It is inaccurate and inappropriate to use the computer print-outs to identify "profits" for development on specific sites as stated by the commenter.

B.1.5 Errata and Revisions to the EIR Text

Table VII.B.2 on page VII.B.4 of the Draft EIR contains a typographical error in the forecasts of space by use for the year 2000 under the Downtown Plan. A correct version of the table follows, with the correction underlined. (Table VII.B.2 also includes other corrections in the numbers presented for the Alternatives related to the housing land use category as described below.)

Tables VII.B.2, VII.B.3, G.5-G.9, G.16, G.18, G.20, G.22 and G.24 contain errors in the housing land use category. These tables summarize the changes in land use between 1990 and 2000, and show 2000 totals for each land use and subarea for the five Alternatives analyzed in detail in the Consultant's Report. The estimates of housing demolition in the C-3 District between 1990 and 2000 under the five alternatives were inadvertently omitted from these tables. This omission does not change the conclusions in either the Consultant's Report or the Draft EIR; the correct estimates were considered in the analysis. Corrected versions of the tables follow, with the corrections underlined. Overall, the corrected tables are not substantially different from those originally presented in the Draft EIR. The estimates of total changes in housing space do not differ by more than two percent. The totals differ even less. The tables showing changes in the housing space in the C-3 District (Tables G.16, G.18, G.20, G.22 and G.24) now show both new space added and space demolished. (See Section B.4.2 below for more discussion of the estimates of housing loss in the C-3 District.)

TABLE VII.B.2: C-3 DISTRICT SPACE BY USE FOR THE DOWNTOWN PLAN AND ALTERNATIVES 1-5 (Thousands of Gross Sq. Ft.)

	1984	1990		2000											
				Total Space						% Change from 1990					
					Alternative						Alternative				
Use	Total Space	Total Space	% Change From 1984	Downtown Plan	1	2	3	4	5	Downtown Plan	1	2	3	4	5
Office	62,074	70,492	14	78,889	86,490	85,266	83,425	77,522	77,919	12	23	21	18	10	11
Retail	8,220	8,949	9	9,632	10,288	10,192	9,945	9,766	9,773	8	15	14	11	9	9
Transient Hotel	9,722	12,535	29	14,120	14,873	14,873	14,873	14,595	14,595	13	19	19	19	16	16
Residential Hotel	2,848	2,835	-1	2,835	2,835	2,835	2,835	2,835	2,835	--	--	--	--	--	--
Housing	4,178	5,273	26	5,843	5,495	7,156	6,033	8,204	6,128	11	4	36	14	56	16
Cultural/Institutional/ Educational/Other	6,120	5,998	-2	5,489	5,439	5,205	5,006	5,537	5,331	-8	-9	-13	-17	-8	-11
Industrial/Warehouse/ Automotive	4,128	3,285	-20	2,388	1,742	2,028	1,738	3,072	2,262	-27	-47	-38	-47	-6	-31
Parking	6,258	6,423	3	6,047	5,819	5,823	5,834	6,112	5,974	-6	-9	-9	-9	-5	-7
TOTAL	103,548	115,790	12	125,243	132,981	133,378	129,689	127,643	124,817	8	15	15	12	10	8

SOURCE: Recht Hausrath & Associates

TABLE VII.B.3: C-3 DISTRICT SPACE BY SUBAREA FOR THE DOWNTOWN PLAN AND ALTERNATIVES 1-5
(Thousands of Gross Sq. Ft.)

	1984	1990		2000											
				Total Space						% Change from 1990					
					Alternative						Alternative				
Subarea	Total Space	Total Space	% Change From 1984	Downtown Plan	1	2	3	4	5	Downtown Plan	1	2	3	4	5
1	49,222	55,496	13	59,694	64,543	63,975	62,285	61,786	60,171	8	16	15	12	11	8
2	6,385	7,275	14	9,766	9,574	9,570	8,846	8,102	8,316	34	32	32	22	11	14
3	7,749	8,271	7	8,756	9,331	9,723	9,306	9,245	8,663	6	13	18	13	12	5
4	6,009	6,009	--	6,324	6,459	6,589	6,630	6,419	6,189	5	7	10	10	7	3
5	17,816	19,640	10	20,868	21,840	22,193	21,816	21,418	21,181	6	11	13	11	9	8
6	12,486	15,007	20	15,693	16,710	16,666	16,408	16,141	15,919	5	11	11	9	8	6
7	3,881	4,092	5	4,142	4,524	4,662	4,398	4,532	4,378	1	11	14	7	11	7
TOTAL	103,548	115,790	12	125,243	132,981	133,378	129,689	127,643	124,817	8	15	15	12	10	8

SOURCE: Recht Hausrath & Associates

TABLE G.5: ALTERNATIVE 1 - C-3 DISTRICT SPACE BY USE AND SUBAREA, 2000(a)
(Thousands Of Gross Sq. Ft.)

Use	Subarea 1	2	3	4	5	6	7	Total C-3 District
Office(b)	57,015	7,560	3,451	5,151	4,528	6,793	1,992	86,490
% of C-3 Total	65.9	8.7	4.0	6.0	5.2	7.9	2.3	100.0%
Retail	2,881	423	547	453	1,178	4,162	644	10,288
% of C-3 Total	28.0	4.1	5.3	4.4	11.5	40.4	6.3	100.0%
Transient Hotel	2,321	--	409	31	8,096	3,955	61	14,873
% of C-3 Total	15.6	--	2.8	0.2	54.4	26.6	0.4	100.0%
Residential Hotel	147	--	162	74	2,205	194	53	2,835
% of C-3 Total	5.2	--	5.7	2.6	77.8	6.8	1.9	100.0%
Housing	596	340	831	276	2,307	300	845	5,495
% of C-3 Total	10.8	6.2	15.1	5.0	42.0	5.5	15.4	100.0%
Cultural/Institutional Educational/Other	772	93	1,453	183	1,979	145	814	5,439
% of C-3 Total	14.2	1.7	26.7	3.3	36.4	2.7	15.0	100.0%
Industrial/Warehouse/ Automotive	34	255	856	42	524	12	19	1,742
% of C-3 Total	1.9	14.6	49.4	2.4	29.9	0.7	1.1	100.0%
Parking	777	903	1,622	249	1,023	1,149	96	5,819
% of C-3 Total	13.4	15.5	27.9	4.3	17.6	19.7	1.6	100.0%
TOTAL	64,543	9,574	9,331	6,459	21,840	16,710	4,524	132,981
Percent of Total	48.5	7.2	7.0	4.9	16.4	12.6	3.4	100.0%

(a) 2000 space includes 1990 space and changes estimated for 1990-2000: space constructed, space demolished, and changes in the use of space (conversions).

(b) Non-office uses, such as retail, located in office buildings are not included in the estimates of space in office use, but are included in their respective space use categories.

SOURCE: Recht Hausrath & Associates

TABLE G.6: ALTERNATIVE 2 - C-3 DISTRICT SPACE BY USE AND SUBAREA, 2000(a)
(Thousands Of Gross Sq. Ft.)

				Subarea				Total C-3
Use	1	2	3	4	5	6	7	District
Office(b)	56,085	7,559	3,437	5,105	4,416	6,710	1,954	85,266
% of C-3 Total	65.8	8.8	4.0	6.0	5.2	7.9	2.3	100.0%
Retail	2,803	423	544	449	1,176	4,154	643	10,192
% of C-3 Total	27.5	4.2	5.3	4.4	11.5	40.8	6.3	100.0%
Transient Hotel	2,321	--	409	31	8,096	3,955	61	14,873
% of C-3 Total	15.6	--	2.8	0.2	54.4	26.6	0.4	100.0%
Residential Hotel	147	--	162	74	2,205	194	53	2,835
% of C-3 Total	5.2	--	5.7	2.6	77.8	6.8	1.9	100.0%
Housing	986	340	1,326	456	2,699	345	1,004	7,156
% of C-3 Total	13.8	4.8	18.5	6.4	37.7	4.8	14.0	100.0%
Cultural/Institutional Educational/Other	823	93	1,084	183	2,045	146	831	5,205
% of C-3 Total	15.8	1.8	20.8	3.5	39.3	2.8	16.0	100.0%
Industrial/Warehouse/ Automotive	34	255	1,142	42	524	12	19	2,028
% of C-3 Total	1.7	12.6	56.3	2.1	25.8	0.6	0.9	100.0%
Parking	776	900	1,619	249	1,032	1,150	97	5,823
% of C-3 Total	13.3	15.5	27.8	4.3	17.7	19.7	1.7	100.0%
TOTAL	63,975	9,570	9,723	6,589	22,193	16,666	4,662	133,378
Percent of Total	48.0	7.2	7.3	4.9	16.6	12.5	3.5	100.0%

(a) 2000 space includes 1990 space and changes estimated for 1990-2000: space constructed, space demolished, and changes in the use of space (conversions).

(b) Non-office uses, such as retail, located in office buildings are not included in the estimates of space in office use, but are included in their respective space use categories.

SOURCE: Recht Hausrath & Associates

TABLE G.7: ALTERNATIVE 3 - C-3 DISTRICT SPACE BY USE AND SUBAREA, 2000(a)
(Thousands Of Gross Sq. Ft.)

	Subarea							Total
Use	1	2	3	4	5	6	7	C-3 District
Office(b)	54,348	6,952	3,703	5,343	4,677	6,546	1,856	83,425
% of C-3 Total	65.2	8.3	4.4	6.4	5.6	7.9	2.2	100.0%
Retail	2,677	353	555	460	1,190	4,087	623	9,945
% of C-3 Total	26.9	3.5	5.6	4.6	12.0	41.1	6.3	100.0%
Transient Hotel	2,321	--	409	31	8,096	3,955	61	14,873
% of C-3 Total	15.6	--	2.8	0.2	54.4	26.6	0.4	100.0%
Residential Hotel	147	--	162	74	2,205	194	53	2,835
% of C-3 Total	5.2	--	5.7	2.6	77.8	6.8	1.9	100.0%
Housing	1,129	341	831	276	2,281	300	875	6,033
% of C-3 Total	18.7	5.6	13.8	4.6	37.8	5.0	14.5	100.0%
Cultural/Institutional Educational/Other	828	79	1,006	183	1,920	173	817	5,006
% of C-3 Total	16.5	1.6	20.1	3.6	38.4	3.5	16.3	100.0%
Industrial/Warehouse/ Automotive	38	192	1,018	11	456	9	14	1,738
% of C-3 Total	2.2	11.1	58.6	0.6	26.2	0.5	0.8	100.0%
Parking	797	929	1,622	252	991	1,144	99	5,834
% of C-3 Total	13.7	15.9	27.8	4.3	17.0	19.6	1.7	100.0%
TOTAL	62,285	8,846	9,306	6,630	21,816	16,408	4,398	129,689
Percent of Total	48.0	6.8	7.2	5.1	16.8	12.7	3.4	100.0%

(a) 2000 space includes 1990 space and changes estimated for 1990-2000: space constructed, space demolished, and changes in the use of space (conversions).

(b) Non-office uses, such as retail, located in office buildings are not included in the estimates of space in office use, but are included in their respective space use categories.

SOURCE: Recht Hausrath & Associates

TABLE G.8: ALTERNATIVE 4 - C-3 DISTRICT SPACE BY USE AND SUBAREA, 2000(a)
(Thousands Of Gross Sq. Ft.)

	Subarea							Total
Use	1	2	3	4	5	6	7	C-3 District
Office(b)	53,556	5,863	2,073	4,753	3,419	6,138	1,720	77,522
% of C-3 Total	69.1	7.6	2.7	6.1	4.4	7.9	2.2	100.0%
Retail	2,663	295	547	423	1,151	4,073	614	9,766
% of C-3 Total	27.3	3.0	5.6	4.3	11.8	41.7	6.3	100.0%
Transient Hotel	2,321	--	409	31	7,797	3,976	61	14,595
% of C-3 Total	15.9	--	2.8	0.2	53.4	27.3	0.4	100.0%
Residential Hotel	147	--	162	74	2,205	194	53	2,835
% of C-3 Total	5.2	--	5.7	2.6	77.8	6.8	1.9	100.0%
Housing	1,405	432	1,471	596	2,811	385	1,104	8,204
% of C-3 Total	17.1	5.3	17.9	7.2	34.4	4.7	13.4	100.0%
Cultural/Institutional Educational/Other	841	115	1,257	183	2,105	185	851	5,537
% of C-3 Total	15.2	2.1	22.7	3.3	38.0	3.3	15.4	100.0%
Industrial/Warehouse/ Automotive	44	388	1,655	70	866	19	30	3,072
% of C-3 Total	1.4	12.6	53.9	2.3	28.2	0.6	1.0	100.0%
Parking	809	1,009	1,671	289	1,064	1,171	99	6,112
% of C-3 Total	13.2	16.5	27.4	4.7	17.4	19.2	1.6	100.0%
TOTAL	61,786	8,102	9,245	6,419	21,418	16,141	4,532	127,643
Percent of Total	48.4	6.4	7.2	5.0	16.8	12.6	3.6	100.0%

(a) 2000 space includes 1990 space and changes estimated for 1990-2000: space constructed, space demolished, and changes in the use of space (conversions).

(b) Non-office uses, such as retail, located in office buildings are not included in the estimates of space in office use, but are in their respective space use categories.

SOURCE: Recht Hausrath & Associates

TABLE C.9: ALTERNATIVE 5 - C-3 DISTRICT SPACE BY USE AND SUBAREA, 2000(a)
(Thousands Of Gross Sq. Ft.)

Use	Subarea 1	2	3	4	5	6	7	Total C-3 District
Office(b)	52,667	6,490	2,231	4,895	3,960	5,984	1,692	77,919
% of C-3 Total	67.6	8.3	2.8	6.3	5.1	7.7	2.2	100.0%
Retail	2,602	319	547	430	1,172	4,086	617	9,773
% of C-3 Total	26.6	3.3	5.6	4.4	12.0	41.8	6.3	100.0%
Transient Hotel	2,321	--	409	31	7,797	3,976	61	14,595
% of C-3 Total	15.9	--	2.8	0.2	53.4	27.3	0.4	100.0%
Residential Hotel	147	--	162	74	2,205	194	53	2,835
% of C-3 Total	5.2	--	5.7	2.6	77.8	6.8	1.9	100.0%
Housing	699	341	943	276	2,491	348	1,030	6,128
% of C-3 Total	11.4	5.6	15.4	4.5	40.6	5.7	16.8	100.0%
Cultural/Institutional Educational/Other	844	79	1,243	183	1,980	185	817	5,331
% of C-3 Total	15.8	1.5	23.3	3.4	37.2	3.5	15.3	100.0%
Industrial/Warehouse/ Automotive	55	128	1,506	21	537	6	9	2,262
% of C-3 Total	2.4	5.7	66.6	0.9	23.7	0.3	0.4	100.0%
Parking	836	959	1,622	279	1,039	1,140	99	5,974
% of C-3 Total	14.0	16.0	27.1	4.7	17.4	19.1	1.7	100.0%
TOTAL	60,171	8,316	8,663	6,189	21,181	15,919	4,378	124,817
Percent of Total	48.2	6.7	6.9	5.0	17.0	12.7	3.5	100.0%

(a) 2000 space includes 1990 space and changes estimated for 1990-2000: space constructed, space demolished, and changes in the use of space (conversions).
(b) Non-office uses, such as retail, located in office buildings are not included in the estimates of space in office use, but are included in their respective space use categories.

SOURCE: Recht Hausrath & Associates

TABLE G.16: ALTERNATIVE 1 - CHANGES IN C-3 DISTRICT SPACE BY USE, 1990-2000
(Thousands of Gross Sq. Ft.)

	Office	Retail	Transient Hotel	Housing	Cult./Inst./ Educ./Other	Ind./Whse./ Automotive	Parking	Total
New Construction of Office Buildings and Hotels	16,935	--	2,360	--	--	--	--	19,295
Other New Construction	--	478	--	330	--	--	--	808
Retail Space In New Office Buildings	(1,438)	1,438	--	--	--	--	--	0
New Space by Use	15,497	1,916	2,360	330	--	--	--	20,103
Space Demolished by Use	(853)	(577)	(22)	(108)	(606)	(142)	(604)	(2,912)
Conversion to Office Use	1,721	--	--	--	(320)	(1,401)	--	0
Other Changes In Use	(367)	--	--	--	367	--	--	0
Net Changes In Space by Use	15,998	1,339	2,338	222	(559)	(1,543)	(604)	17,191

SOURCE: Recht Hausrath & Associates

TABLE G.18: ALTERNATIVE 2 - CHANGES IN C-3 DISTRICT SPACE BY USE, 1990-2000
(Thousands of Gross Sq. Ft.)

	Office	Retail	Transient Hotel	Housing	Cult/Inst./ Educ./Other	Ind./Whse./ Automotive	Parking	Total
New Construction of Office Buildings and Hotels	15,500	--	2,360	--	--	--	--	17,860
Other New Construction	--	487	--	1,980	--	--	--	2,467
Retail Space In New Office Buildings	(1,315)	1,315	--	--	--	--	--	0
New Space by Use	14,185	1,802	2,360	1,980	--	--	--	20,327
Space Demolished by Use	(854)	(559)	(22)	(97)	(466)	(141)	(600)	(2,739)
Conversion to Office Use	1,726	--	--	--	(610)	(1,116)	--	0
Other Changes In Use	(283)	--	--	--	283	--	--	0
Net Changes In Space by Use	14,774	1,243	2,338	1,883	(793)	(1,257)	(600)	17,588

SOURCE: Recht Hausrath & Associates

TABLE G.20: ALTERNATIVE 3 - CHANGES IN C-3 DISTRICT SPACE BY USE, 1990-2000
(Thousands of Gross Sq. Ft.)

	Office	Retail	Transient Hotel	Housing	Cult./Inst./ Educ./Other	Ind./Whse./ Automotive	Parking	Total
New Construction of Office Buildings and Hotels	13,200	--	2,360	--	--	--	--	15,560
Other New Construction	--	487	--	845	--	--	--	1,332
Retail Space In New Office Buildings	(1,100)	1,100	--	--	--	--	--	0
New Space by Use	12,100	1,587	2,360	845	--	--	--	16,892
Space Demolished by Use	(762)	(591)	(22)	85	(516)	(428)	(589)	(2,993)
Conversion to Office Use	1,862	--	--	--	(743)	(1,119)	--	0
Other Changes In Use	(267)	--	--	--	267	--	--	0
Net Change In Space By Use	12,933	996	2,338	760	(992)	(1,547)	(589)	13,899

SOURCE: Recht Hausrath & Associates

TABLE C.22: ALTERNATIVE 4 - CHANGES IN C-3 DISTRICT SPACE BY USE, 1990-2000
(Thousands of Gross Sq. Ft.)

	Office	Retail	Transient Hotel	Housing	Cult./Inst./ Educ./Other	Ind./Whse./ Automotive	Parking	Total
New Construction of Office Buildings and Hotels	8,100	--	2,060	--	--	--	--	10,160
Other New Construction	--	564	--	2,945	--	--	--	3,509
Retail Space In New Office Buildings	(678)	678	--	--	--	--	--	0
New Space by Use	7,422	1,242	2,060	2,945	--	--	--	13,669
Space Demolished by Use	(587)	(425)	--	(14)	(395)	(84)	(311)	(1,816)
Conversion to Office Use	195	--	--	--	(66)	(129)	--	0
Other Changes In Use	--	--	--	--	--	--	--	--
Net Change In Space By Use	7,030	817	2,060	2,931	(461)	(213)	(311)	11,853

SOURCE: Recht Hausrath & Associates

TABLE C.24: ALTERNATIVE 5 - CHANGES IN C-3 DISTRICT SPACE BY USE, 1990-2000
(Thousands of Gross Sq. Ft.)

	Office	Retail	Transient Hotel	Housing	Cult./Inst./ Educ./Other	Ind./Whse./ Automotive	Parking	Total
New Construction of Office Buildings and Hotels	7,400	--	2,060	--	--	--	--	9,460
Other New Construction	--	635	--	900	--	--	--	1,535
Retail Space In New Office Buildings	(605)	605	--	--	--	--	--	0
New Space by Use	6,795	1,240	2,060	900	--	--	--	10,995
Space Demolished by Use	(552)	(416)	--	(45)	(400)	(106)	(449)	(1,968)
Conversion to Office Use	1,231	--	--	--	(314)	(917)	--	0
Other Changes In Use	(47)	--	--	--	47	--	--	--
Net Change In Space By Use	7,427	824	2,060	855	(667)	(1,023)	(449)	9,027

SOURCE: Recht Hausrath & Associates

B.2 CITYWIDE AND REGIONAL ANALYSIS AND METHODOLOGY

This response answers comments that question the adequacy of the EIR citywide and regional impact analyses and request more detail on assumptions related to the City and the region, beyond the C-3 District. The comments demonstrate that confusion exists as to what the Downtown Plan EIR is analyzing and what information is required to complete that analysis. To clarify: this is not an EIR on citywide growth alternatives; and it is not an EIR on regional growth alternatives.

The purpose of the EIR is two-fold: 1) to forecast C-3 District growth under various planning policies and 2) to assess the impacts of the growth. This section describes how citywide and regional factors were incorporated in both the forecasts and impact assessments. It also addresses comments regarding the conclusions of the EIR analysis related to citywide and regional growth patterns.

While this section responds to comments about the context for impact assessment, the overall approach, and the implications for regional growth patterns, the responses to comments in Section D.3.2 provide more description, specifically focused on the assessment of regional housing impacts.

B.2.1 Citywide and Regional Context for Forecasts and Impact Assessment

Citywide and Regional Factors Were Considered in the Forecasts

As explained in the Downtown Plan EIR, the C-3 District forecasts are not independent of the context of land use and employment in either the rest of the City or the region. (See pp. II.8-II.9 in the EIR, Introduction to Growth Forecasts - Local, Regional, and National Context.)

The primary purpose of the land use and real estate development and employment analyses conducted for the EIR was to translate C-3 District policies into forecasts of C-3 District growth. The C-3 District forecasts had to account for more than the effect of C-3 District land use policies on C-3 District growth potential. Therefore, an important analytical task of the forecasting effort was to assess C-3 District growth potential with regard to growth potential in both the rest of the City and the region, within the context of the many economic factors influencing future growth.

Future development potential in the non-C-3 District areas of San Francisco was considered in determining the future location options for business activity in San Francisco. The forecasts for the Plan and each Alternative considered the relative attractiveness of C-3 locations vis-a-vis these other City locations for each business activity.

The basic scenario of citywide development potential used to define other City locations accounts for recent development patterns in the City, the existing distribution of land uses, as well as proposed and potential projects and plans. Specific forecasts of the amount of future development and employment in such areas as the Van Ness Corridor, non-C-3 District redevelopment areas, Mission Bay, Rincon Hill, the Second Street corridor, and the south of Market areas currently zoned M-1 were not prepared and were not required to complete the C-3 District forecasts. The potential represented by plans and projects in specific areas (potential amount and type of development) was used (along with other information) in judging how strongly these locations would compete with the C-3 District either for businesses already located in the C-3 and expected to consider moving, or for types of business activities expected to grow in the C-3 District. (See Section B.2.3 for more detail on the status of specific non-C-3 District development.)

In the EIR, pages IV.C.32-IV.C.36 indicate how citywide development potential outside the C-3 District was considered in completing the C-3 District forecasts. The specific items in the text for each business activity describe the ability and willingness of some types of businesses and functions to accept locations outside the C-3 District. In addition, the text indicates that possible future development south of the C-3 District was particularly important in the assessment of location options.

Mission Bay was specifically considered; however, it was assumed that this project would not be developed to the extent that it could have a major effect on the C-3 District within the time period of the EIR analysis. The discussion of Mission Bay in the EIR goes on to say that the amount and type of space eventually developed there will have a lot to do with both the timing of absorption and the competitiveness of the project with downtown locations. The most recent proposal for Mission Bay includes less total office space and lower-rise (presumably lower-rent) structures than the proposal that had been most recently circulated at the time of preparation of the Draft EIR. The timing of the Mission Bay development may still be such that the limited amount of space built by 2000 would have little effect on the amount and types of C-3 District development; in addition, the most recent proposal offers less that would be potentially competitive with the C-3 District and does not represent cause for revising the C-3 District forecasts presented in the EIR.

The EIR analysis does not ignore "half the downtown growth", the growth in "functionally-connected areas", the cumulative list of major projects, or Mission Bay, as alleged in several comments. The effects of all of these plans and projects on the "economic dynamics of downtown development" are incorporated in the EIR analysis and C-3 District forecasts. Section B.1 of the responses to comments summarizes the economic forecast rationale and approach and provides more information demonstrating that the analysis was not independent of the citywide context.

The C-3 District economic analysis and forecasts of growth also considered the relative attractiveness of C-3 District locations vis-a-vis other locations in the region (as represented by projects and plans in Contra Costa County, eastern Alameda County, San Mateo County, downtown Oakland, and other areas). The Association of Bay Area Governments' (ABAG) regional employment forecasts were used to provide a quantitative context for the future rate and distribution of growth throughout the region. The ABAG regional forecasts of employment also provided a context for analyzing the attractiveness of the Bay Area region for various business and industry groups.

Citywide and Regional Impact Assessment

The analysis of the effects of C-3 District land use policies (represented by the proposed Plan and five Alternatives) on C-3 District growth in the context of citywide and regional growth potentials resulted in the six different forecasts of C-3 District growth presented in the EIR. The impacts of the full amount of C-3 District growth are analyzed in the EIR. The impact assessments consider effects attributable to the growth of employment and space in the C-3 District from 1984 to 2000. The EIR thus evaluates the impacts of six variations of C-3 District planning policy which would result in various levels of growth in the C-3 District to the year 2000. The EIR also identifies longer-term implications, as relevant.

Most of the comments that are concerned with the implications of growth beyond the C-3 District are directed towards housing and transportation issues. More detailed analysis was done for citywide than for regional impact assessment in these areas. The effects of C-3 District growth would be more prominent in the rest of the City than in other jurisdictions throughout the region.

How the Citywide and Regional Context was Considered. For the impact assessments of C-3 District growth, citywide and regional parameters were incorporated as relevant to provide a context for analyzing the effects attributable to C-3 District growth. This methodology recognizes that the C-3 District does not exist in a vacuum. The approach, however, is different from that called for in several of the comments.

The comments suggest that the only way to assess the impacts of growth from the broader "cumulative" perspective is to analyze all other development in the rest of the City and the region that presumably would contribute to the future context. It is not possible simply to define the citywide and regional context for impact assessment as the sum total of all plans and projects currently under review in either the City or the region, however. First, such a tabulation would not be a forecast associated with any particular analytical time period; it would not have a clear end-point, such as the year 2000, within which to estimate or forecast other parameters, and it is not reasonable to predict effects for air quality, transportation systems or other physical environmental issues for an infinite time period.* Second, some proposals that the comments suggest should be considered (i.e., the Santa Fe-Berkeley waterfront proposal) are as yet undefined, existing only as a range of planning alternatives. Finally, although some project information (square feet of space and potential employment) provides an indication of the general magnitude of development activity expected (and was used in this general way in preparing the C-3 District growth forecasts, as described above), the analysis does not exist that would enable conversion of this information to a consistent set of citywide and regional residence patterns or commute patterns that could be used to measure the contribution of C-3 District growth.

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*An example of the fact that different localities would have shorter- or longer-term "lists" of projects with no common end-point is provided by information for downtown Oakland. The following was presented at a recent community workshop on Oakland's Central District Development Program: "There is approximately 13 million sq. ft. of office space now proposed for downtown.... Oakland's past experience indicates that new office users only fill between 200,000-400,000 sq. ft. per year. At this rate, it would take 33 to 65 years to fully occupy the proposed buildings." (Oakland Central District Development Program Community Workshop Handout, August 2, 1984, JA/WRT Consultants). Given the longer term nature of Oakland's list of proposals, for example, it would not be appropriate to include all of this growth within the future regional context for impact assessment over the period 1984-2000.

Therefore, the approach in the EIR was to use data and forecasts that were available for each subject area (i.e. housing or transportation) to provide the citywide and regional contexts for impact assessment. This approach had the advantage of providing an overview context that was consistent with the time frame for the EIR analysis, while avoiding the uncertainties in terms of amount and type of development, and timing, inherent in tabulating a list of potential projects and plans and attempting to develop cumulative housing or transportation information on this basis.

For example, the housing impact assessment in the EIR uses employment forecasts for each of the various counties of the region to describe the growth that is expected to occur by the year 2000. These forecasts incorporate the plans and projects that are expected to be completed by 2000. They also include future employment in projects as yet not conceived or proposed. This approach provides a cumulative employment context that is consistent with forecasts of expected future housing and labor force throughout the region. To assess housing impacts, it is important that expected growth of employment be analyzed within the context of expected growth of the housing supply and of the region's workforce for consistent time periods. Deriving growth from a list of projects would not assure that the time frame for the commercial and industrial projects would be consistent with that for the residential projects or with the time frame of available forecasts of housing and employed population. (The future regional context for the housing impact assessment is described in more detail in response to comments in Section D.3.2.1.)

Limitations on the Level of Detail Provided in the EIR. Another aspect of impact assessment raised in the comments on the Draft EIR is more specific identification of impacts outside the C-3 District. The comments request quantification of the impacts of C-3 District growth in various jurisdictions throughout the region. There are other local economic factors and planning decisions that will be more important than the effects of C-3 District growth in determining the probable future scenario for the housing market in any one community or for transportation systems, however.

Therefore, the only reasonable approach is to focus (qualitatively) on how C-3 District growth would affect what would otherwise be expected to occur, using regional employment, labor force, and housing forecasts, and other information relevant to housing market operation, transportation, air quality, and other areas of impact assessment. This is the perspective of the EIR analysis. The EIR answers the questions: would C-3 District development make a difference, what kind of difference, in which locations and for what types of impacts would C-3 District growth make the most difference?

For example, the comments request detailed information on housing price impacts in Berkeley. This information cannot be quantified in the EIR. The estimate of Berkeley residents working in the C-3 District is currently a relatively small share of the total labor force in Berkeley (see Table C&R D.5 and associated text). The level of future housing prices in Berkeley will be influenced more by employment growth elsewhere and by other housing market factors than by C-3 District growth. It is not possible to separately identify the contribution of C-3 District workers who choose to live in Berkeley. It is possible to assess the relative level of impact and to describe the types of effects attributable to C-3 District growth. For example, the housing price impacts due to C-3 District growth are likely to be greater in Berkeley and other close-in East Bay communities than they are in the more outlying areas of the region. (See responses to comments on residence patterns and housing, Sections D.3.2.2 and D.3.2.3 for more detailed discussion of these impacts.)

These assessments are necessarily qualitative because of the enormous effort that would be required to study each of the many local economic, public policy, demographic, housing market, transportation, and other factors in order to develop quantitative forecasts of future conditions for the many jurisdictions in the region. Even more important is the fact that the differences in future conditions attributable to different C-3 District policies alone is likely to be relatively small and not easily isolated (quantitatively) from the effects of other, more important factors. It is not surprising that the type of forecasts requested by some of the comments (for example, future housing prices and rents for different types of units in individual jurisdictions) do not exist. Not only are such studies very costly, but it is difficult to quantify some future conditions (such as housing prices and rents in the year 2000) with any reasonable degree of accuracy.

B.2.2 Questions About Citywide and Regional Growth Patterns

Several comments ask about the effect of C-3 District policies on citywide and regional growth. The concerns are for the relationship between C-3 District growth and the overall growth of the City or region, as well as for the implications of different overall patterns of regional growth.

Effect of C-3 District Policies on Citywide and Regional Growth

C-3 District policies indirectly affect growth in other City and regional areas as a result of their direct effect on growth in the C-3 District. These effects are described in the EIR as a part of the land use, real estate development, and employment impacts of the Plan (and Alternatives). (See pp. IV.B.55-IV.B.62, IV.C.47-IV.C.50, VII.B.8-VII.B.10, and VII.C.10-VII.C.11.) The basic approach taken in the EIR was to identify the differences in growth in the C-3 District as a result of policies and then to consider where that growth would locate if not in the C-3 District and the implications of these shifts for the other areas.

Differences in C-3 District Growth. The EIR analysis of the Plan and of Alternatives allowing different levels of growth in the C-3 District indicates that with more constraints on downtown development, there would be more activity in existing C-3 District space (existing space used more intensively; higher employment densities), but less overall growth and less total activity in the C-3 District. Most of the growth that would be accommodated in the C-3 District under a higher growth alternative would shift to other City locations and locations elsewhere in the region under more constraining C-3 District policies. Among non-C-3 District locations within the region, it is expected that most business activities would substitute other San Francisco locations if appropriate space could be provided at a competitive cost (depending on policies in other City areas). Not all of the businesses otherwise locating or expanding in the C-3 District would accept substitute locations elsewhere in the Bay Area, however. For example, some businesses would choose another headquarters city such as Los Angeles, if suitable space in downtown San Francisco were not available.

The differences among the C-3 District forecasts for the Plan and Alternatives for the year 2000 provide a measure of the magnitude of these potential shifts. For example, the EIR indicates that by 2000, the difference in employment in the C-3 District under the proposed Plan as compared to Alternative 1 (the No Project Alternative) is 15,100 jobs (see Table VII.C.1 on page VII.C.3).* To illustrate the qualitative discussion, perhaps about half of these jobs might be included in businesses which would seek a substitute location in other City areas, about 10 percent might leave the region, and the rest (about 40 percent) might be in businesses which locate elsewhere in the region.

Effects on Growth in Other San Francisco Areas. The EIR describes the effects of C-3 District policies on space and employment elsewhere in the City in terms of the direction and relative extent of potential shifts in activity and the resultant effects on the types and rates of growth in other parts of the City. It focuses on effects in nearby areas, particularly south of Market Street. Since much of the growth that would otherwise locate in the C-3 District could instead locate in other City areas and since such shifts would represent a larger percentage of growth and total activity in San Francisco than in the rest of the region, much of the EIR description of land use and employment impacts outside the C-3 District is devoted to other San Francisco areas and relatively less to the rest of the region.

The description of impacts on growth in other City areas is qualitative and focuses on the differences that would result from the choice of C-3 District policies. Many of the comments request forecasts of total future space and employment in other City areas similar to those developed for the C-3 District. Comparable forecasts do not exist. They could not be done without further data gathering and analysis to document existing conditions, without analysis of other business activities than those of relevance to the C-3 District, and without consideration of the effect of policy options in areas where other planning efforts are currently in progress (such as South of Market, Chinatown, North of Market/Tenderloin, etc.).

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*There is less difference between the Plan and the other Alternatives. The difference between the highest and lowest forecasts - Alternative 1 and Alternative 4 - is 19,600 jobs.

The effects of C-3 District policies on growth in other City areas are identified and described in the EIR, however. The impacts are not forecasts of precisely what would occur, but descriptions of potential impacts identifying the pressures set in motion by the choice of C-3 District policies and the other policy decisions which will determine how these growth pressures would be accommodated.

For example, the EIR concludes that the choice of C-3 District policies would have the most effect on the timing of development south of Market Street. The office space planned for Rincon Hill would probably be absorbed at a faster rate under lower growth C-3 District policies than under policies which allowed more growth. The same conclusion could apply to the Mission Bay office development, depending on what type of space is built there. The choice of C-3 District policies would have less effect if the Mission Bay space were oriented more towards research and development or other office activities not typically located in the C-3 District.

Effects on Growth in the Rest of the Region. The EIR also describes the effects of C-3 District policies on growth in the rest of the region (see pp. IV.B.61-IV.B.62, IV.C.50, and X.1-X.3). Although in total the magnitudes are relatively small, description is provided in the EIR of those parts of the region to which the potential for shifts are greatest. (Also see the discussion of regional development patterns and the perspective for evaluating the regional impacts of C-3 District growth in the next subsections of this response.)

Comments request that space and employment forecasts also be provided for regional growth. As for the other City areas discussed above, these are not needed to assess the impacts of C-3 District policies on regional growth patterns.

Effect of Annual Growth Limits on Development Patterns. The EIR (and discussion above) concludes that because most C-3 District business activities would choose other San Francisco locations if their first choice C-3 District location were not available at a competitive cost, the differences among alternative levels of C-3 District growth for regional development patterns and employment would be less marked than they would for citywide patterns. However, the effects would be somewhat different in the case of annual limits on development which applied citywide.

To the extent that citywide annual limits on office development reduced the amount of development allowed in the C-3 District and in other parts of the City, shifts among City locations could not occur. Instead, there would be lower overall City growth and more growth elsewhere in the region. There would also be increases in the activity (i.e., increases in employment density) in existing San Francisco space, so that the shifts of the growth of economic activity and employment outside the City would be less than the difference in the development pattern as evidenced by the new construction that was allowed.

Overall Regional Development Pattern

Comments express concern about the effect of C-3 District growth on the development of land at the periphery of the region which would otherwise remain in agricultural use or open space. The implication of the statements made is that the Downtown Plan would result in the development of more agricultural and open space lands than would lower growth policies for the C-3 District. This is not necessarily correct.

The EIR analysis of various C-3 District growth scenarios and of the business activities expected to grow demonstrates that there is not a simple correspondence between less C-3 District growth and less growth overall in either the City or the region. In other words, because of businesses' strong preferences for C-3 District, San Francisco, and Bay Area locations, policies which resulted in lower C-3 District growth would not necessarily result in a proportional decrease in City or regional growth. In fact, because of the willingness of these businesses to accept substitute locations elsewhere in the City and region, the implications of less C-3 District growth would be higher rates of development in these other areas.

Although the total growth of the region would probably be lower with less C-3 District growth as compared to more growth (since some businesses would substitute a location outside the region), the shifts from the C-3 District to other areas in the City and throughout the region could very likely result in a lower overall density of development and a more dispersed overall, regional development pattern. This more dispersed pattern could very likely use more land area than a more centralized pattern with higher overall densities.

Thus, concern about the sprawling of development, the use of the region's land supply, and the preservation of open space and agricultural land would argue for higher growth alternatives for downtown San Francisco. From this perspective, the Downtown Plan would result in a more dispersed, regional development patter as compared to higher C-3 District growth such as forecast to occur under the current Planning Code (Alternative 1). The Downtown Plan would result in a more centralized, higher density pattern than an even lower growth alternative or than annual limits which would constrain development in San Francisco compared to what would otherwise occur without such limits.

Given the relatively small differences in C-3 District growth by 2000 among the Plan and the five Alternatives (reflecting only about 10-12 years growth under new policies) different overall regional patterns would not become very evident for a longer time into the future. Nevertheless, the adoption of new C-3 District policies would have the above types of long term implications.

The conclusions above relate to variations in C-3 District growth assuming that other regional growth is held constant. In other words, the pattern of regional development could be more or less dispersed (or centralized) than it would otherwise be as a result of the adoption of new C-3 District policies. The specific future pattern will be the result of policies in other communities throughout the region in addition to those for the C-3 District, in combination with many other factors.

As stated at the beginning of this section, it is not within the scope of this EIR to evaluate the impacts of all regional growth or of alternative regional development scenarios. As described earlier, however, many aspects of regional growth were incorporated into the EIR analysis and regional growth parameters were used to provide the context within which the effects of C-3 District policies were assessed. A comprehensive impact assessment at the regional level, evaluating total regional growth without San Francisco or C-3 growth vs. total regional growth with San Francisco or C-3 growth, would essentially be an EIR on total regional growth as might be identified by an EIR on ABAG's Projections '83 forecasts. Further, an impact assessment of different overall regional development patterns, considering, for example, city-centered growth vs. a more dispersed development pattern would essentially be an EIR on alternative regional growth scenarios. These types of regional assessments are clearly not within the scope of San Francisco's Downtown Plan EIR. Many local areas and their plans and other factors besides those of direct relevance to the C-3 District would have to be analyzed in detail.

Perspective for Evaluating Impacts of C-3 District Policies

As noted in one of the comments, the EIR states: "Most of the employment growth forecast for the C-3 District would otherwise occur elsewhere in the Bay Area" if not in the C-3 District (see Section X. Growth Inducement, pp. X.1-X.3). (This is consistent with the discussion above that many businesses otherwise locating or expanding in the C-3 District would substitute another location elsewhere in the City or region.)

The conclusion that most growth in the C-3 District is not necessarily a net addition to the region's economic activity (because most would occur elsewhere in the region if not in the C-3) does not limit the evaluation of environmental impacts in the EIR "only to those which the Report believes would not occur elsewhere in the region", as suggested in the comments. The full amount of C-3 District growth is analyzed in the impact assessments in the EIR, as discussed in earlier sections of this response. The subjects of the EIR are "the impacts of locating that employment in San Francisco, in the dense center of the region...", as requested in the comments.

The significance of the conclusion that most growth in the C-3 District would occur elsewhere in the region if not in the C-3 is the perspective it provides for evaluating the impacts that are identified in the EIR, particularly the perspective of regional growth inducement. It would be misleading for those who were concerned about the impacts of C-3 District growth to conclude that regional impacts would not occur if the proposed Downtown Plan were not adopted or if a lower growth alternative for the C-3 District were chosen. This is not necessarily correct.

For example, if one were concerned about housing or transportation impacts in Alameda or Contra Costa Counties (from workers commuting to downtown San Francisco), less growth in the C-3 District could mean more growth in City areas adjacent to the downtown and/or more growth in downtown Oakland or in Contra Costa County. In the first instance, the impacts could be very similar to the impacts of C-3 District growth, and in the second, they might be greater, from the perspective of those concerned about housing and transportation in Alameda and Contra Costa Counties. It must also be recognized that policy decisions affecting the location of housing contribute to the kinds of localized housing and transportation impacts that are often of most concern.

The EIR is not saying that these growth inducing effects on population, housing, and transportation would not occur or that they are not important. It is saying that they "cannot be solely attributable to C-3 District policies." In other words, it is not necessarily a simple matter of concluding that less C-3 District growth would mean less impacts throughout the region.

It is true, as implied by the conclusion that most C-3 District growth is not a net addition to the region's economy, that if an alternative were adopted that severely limited C-3 District development, then the impacts of most of the employment growth and development activity analyzed in the Downtown Plan EIR would be analyzed again, from a different perspective, as the growth was accommodated by plans and projects elsewhere in the City and/or region. This does not invalidate the analysis provided in this EIR; this EIR on alternative C-3 District growth scenarios provides one perspective on the future accommodation of regional growth in the Bay Area and discusses, to the extent possible without detailed analysis of the potential for accommodating growth in other communities, how that growth might be redistributed depending on C-3 District policies. It is not possible, from the perspective of this EIR, to assess all the other potential locations for development and the subsequent locational impacts of growth that would occur elsewhere in the region if growth were not in the C-3. It is, in fact, appropriate that projects and plans in other locations by analyzed at the time that those projects and plans are proposed.

B.2.3 Status of Specific Non-C-3 District Development

Rincon Point/South Beach Redevelopment Area

The EIR analysis of C-3 District development potential includes that represented by the Rincon Point/South Beach Redevelopment Plan for the portions of this area within the C-3 District boundaries. The housing and commercial space planned for the Rincon Annex site are included in the analysis of development potential according to the amounts of space specified in the October, 1983 Rincon Annex Postal Service development plan. The plans for hotel development on other Redevelopment Agency property in this are were also considered in the C-3 District forecasts.

Development in the southern portion of this Redevelopment Area (outside the C-3 District) has been accounted for in both the EIR housing analyses and in the land use and employment forecasts. The planned housing development was treated as part of the total potential supply identified in the Residence Element, some of which would be developed before the year 2000. The commercial development was also treated as part of the potential growth of employment in the rest of the City by the year 2000. As noted in Section B.2.1 above, the potential commercial development in this area was also considered generally in determining future location options for business activity in San Francisco. For all of these purposes a specific forecast of development absorption outside the C-3 District was not necessary. (Also see Section D.2.5 of these responses.)

Rincon Hill

The Rincon Hill Plan, provided for public review in June, 1984, has been in preparation and evaluation since 1981, as noted by one commenter. The Plan proposes to change the zoning district designation from M-1 (Light Industrial) to residential on all or parts of eight blocks in the eastern part of the South of Market area, and to increase height limits at the top of the hill from 105 ft. to 320 ft. (with a maximum of 400 ft. under special circumstances) to allow for high-density housing. The Rincon Hill Plan has been evaluated in a Draft EIR (82.39E) published by the Department on June 22, 1984 (after comments on the Downtown Plan Draft EIR were received).

As noted in the DEIR on Rincon Hill, the maximum amount of commercial space that could be built under that Plan in the 12-block planning area is about 680,000 to 930,000 sq. ft. in the residential area plus about 3.9 million sq. ft. in the surrounding commercial/industrial area. This is not a forecast of space likely to be built by the year 2000 but is a maximum range that could theoretically be realized sometime in the 21st century (see Rincon Hill DEIR pp. 74-77). The commercial development proposed for this area was considered, like the South Beach commercial development, in terms of its potential as an alternative location option for downtown businesses. Because of the amount and type of potential development and the proximity of Rincon Hill to the C-3 District, it would be a more likely alternative location than South Beach for businesses otherwise in the C-3 District. Therefore, difference C-3 District policies could have more effect on the type of development and timing of absorption in the Rincon Hill area than in South Beach.

The plans for commercial development in this area were also considered as part of the potential for accommodating employment growth in the rest of the City by the year 2000.

The maximum likely amount of housing in the Rincon Hill area is estimated to be 3,700 to 6,800 units. Again, this entire amount is not forecast to be completed by 2000, but is a maximum which may not be fully built for decades after 2000. The Downtown Plan EIR does not assume the entirety of the Rincon Hill Plan's housing potential would be built by 2000, but includes this area as one of the many locations that could supply part of the 1,000 dwelling units per year assumed in the Downtown Plan EIR to be added throughout the City. Thus, the Downtown Plan EIR forecasts considered Rincon Hill in its proper perspective. (Also see Section D.2.5 of these responses.)

A commenter states that the Rincon Hill Plan includes no commitment to affordable housing. The Rincon Hill Plan is a land use plan, which identifies the appropriate mix of uses for that portion of the City. The Plan has been summarized as one that "incorporates a strategy through which public policy can induce private capital to transform an unattractive and underutilized environment into an urbane, new residential neighborhood. This is a plan to be acted upon by the infusion of private capital without public acquisition of land." (Page 3 of Rincon Hill Plan.) The Plan, therefore, proposes to change land uses in Rincon Hill, in anticipation of future private investment. No substantial invesment of City funds is anticipated. Incentives are provided for affordable housing, however, in the form of a height bonus for projects that contain affordable housing. The Plan would permit a developer to build to the maximum height only if a specified percentage of below market-rate units would be built as part of the project. Without the inclusion of these units, a developer would be allowed to build approximately 20% less than the maximum height permitted. (Rincon Hill DEIR, page 96.)

At the time the Downtown Plan EIR was being printed and published (March, 1984), the Rincon Hill Plan was still in revision and the Preliminary Draft EIR (PDEIR) had not been completely written for internal review (note that that EIR was prepared by Department staff and was written in large part during the months of March-May, based on data and preliminary analyses prepared by the Department in 1983). The PDEIR on Rincon Hill was not "suppressed" as charged by one comment, nor was the Rincon Hill Plan ignored in the Downtown Plan EIR. The urban design and skyline image information for the Rincon Hill Plan were not available until after the Downtown Plan DEIR urban design discussion and graphics were completed; this information has been added to the Downtown Plan EIR in responses to comments in Section H below.

Hill Bros.

An application to develop the Hills Brothers Coffee site on Assessor's Block 3744 was first received by the Department on January 27, 1984. This project, called Hills Plaza, is in the Rincon Hill planning area, will be covered in a separate EIR which is in preparation, and is included in a general way in the overall analysis of the Rincon Hill Plan in that DEIR. In taking the Rincon Hill Plan into account, as described above, Hills Plaza has also been taken into account as necessary to provide the appropriate general analysis of the citywide context for forecasts and impact assessment in the Downtown Plan EIR.

Showplace Square/The "M" Zones

Showplace Square, also mentioned in a comment, is not a specific project but a few blocks in the western South of Market area which includes several buildings used as wholesale showrooms. This area was taken into consideration in terms of how its development would influence potential C-3 District growth, in the context of the overall potential for development in the South of Market M-1 and M-2 Districts. As noted above (Sections B.2.1 and B.1), specific development proposals were considered but were not totalled to be used as forecasts of future South of Market or citywide development. A list of projects of these types was not necessary to provide the citywide context for preparing the C-3 District forecasts, the citywide context for impact assessment, or the appropriately general discussion of citywide and regional effects of proposed C-3 District policies on citywide and regional development patterns.

A study of the western South of Market area is underway in the Department which will include most of the M-zoned areas extending from the YBC Redevelopment Area west to South Van Ness Avenue. The Showplace Square area is also being studied in a separate but linked effort to assess the entire industrial area along the eastern side of the City.

Direct constraints on office space development also affect the supply of space produced. The Plan includes more constraints on office space supply than the current Planning Code provisions; it has fewer constraints than other proposals. Examples of the proposed Plan's constraints compared to current zoning are reductions in FAR, more restrictive height and bulk limits, and reductions in the availability of sites for development.

When the demand for space is strong, constraints on supply will result in increases in rents. (This can be moderated by expansion into areas not previously considered within the pool of available sites. However, it also takes time for market demand to accept such shifts in location, so the market rents might only gradually provide the necessary support for feasible development projects.)

If a goal were to maintain a supply of relatively low-rent space, policies would be needed which maximized the potential supply. Such policies include minimizing the cost of development, maximizing the amount of land available (zoned) for office development, and maximizing the amount of development allowed on each site, by allowing a large development envelope and by minimizing the amount of land required for open space.

Some observations should be made regarding such policies. One is that existing characteristics, such as views, pedestrian amenities, and architectural resources, that contribute to the attractiveness of the C-3 District would be largely foregone under policies which maximized supply. Another consideration is that maximizing the amount of land available for office development reduces the amount of land available for other uses, such as housing, retail, and open space.

Supply-maximizing policies in a developed and desirable location such as the C-3 District would make less difference in rents when viewed from a long term perspective. For some time into the future, a large amount of new office space serves to moderate upward pressures on office rents by increasing the amount of vacant space available to businesses seeking office space. Eventually, in the long run, the amount of new office development will gradually become constrained by the limited availability of land. Policies which maximize supply defer the effect of the land limitation, but the scarcity will eventually be a dominant factor under any policies. Thus, in the long run, rents are likely to be only marginally lower as a consequence of policies designed to maximize the remaining potential for office development, as opposed to more constraining policies.

Employer Costs

The above conclusions answer the concerns set forth above. The rents employers must pay if they choose to locate in San Francisco will be affected by factors which affect supply, including development costs. Under the Downtown Plan, office rents would be higher than they would be under Alternatives 1, 2, and 3 and at about the same levels as under Alternatives 4 and 5. Rents would be higher, in real terms, than the levels of the early 1980's. This would be due to both the direct effects of the Plan on the supply of space (lower FARs, more restrictive heights, and reduction in the availability of sites), and indirect effects on supply (higher development costs which affect the feasibility of new development). Because less space would be supplied, there would be more competition for available space and rents would be higher than they otherwise would be. In other words, the Plan would have an effect on office rents, but it is not solely or directly related to the Plan's higher development costs.

As noted in the comment and throughout the EIR, the policies of the Plan which, combined with strong market demand, result in increases in the rents for C-3 District office space would have most effect on rent-sensitive office activities such as small businesses and "back-office" functions. There would be less of the these activities in the C-3 District under the Downtown Plan (and Alternatives 4 and 5) than under the Alternatives allowing more new development (and thus relatively lower rents)--Alternatives 1, 2, and 3.

Most of the office activities which are expected to grow in the C-3 District would pay the higher rental costs associated with the Downtown Plan policies. Many would use space more intensively than currently to somewhat offset higher space costs per employee. Moreover, to the extent that more attractive space is developed and the amenities and image of working in the C-3 District are enhanced, businesses would receive more value for the higher costs.

Generalized Comments About Implications for Revenue Base

The development of additional office space in San Francisco provides increased tax revenues to the City. The City also incurs service costs in connection with development. The Consultant's Report concluded that new office development in the C-3 District would result in direct revenues substantially in excess of direct costs for the City. This is partially the result of Proposition 13, which assesses new development on its full market value. More new office development, in general, would result in more benefits.

B.4. DISPLACEMENT

The common policy goal of the concerns expressed in the comments on the Downtown Plan Draft EIR regarding displacement is maintaining the diversity of downtown San Francisco and of the City as a whole in terms of both economic activity and population. Economic diversity is defined by businesses of various sizes and functions offering a range of employment opportunities for residents. Concerns for those who might not be direct beneficiaries of economic growth (life-long residents, recent immigrants, low-income families and the elderly on fixed incomes) define the issues related to population diversity.

The first part of this response (B.4.1) discusses the implications of the Downtown Plan and other planning efforts in the City for achieving and maintaining economic diversity in terms of the range of business activities with different types of jobs in the City. Section B.5 discusses diversity in terms of employment opportunities. The second part of this response (B.4.2) deals with issues of the downtown housing stock and the direct displacement of residents by downtown development. Section D.3.1 discusses the citywide implications of increased demand for City housing, including consideration of potentials for gentrification and displacement.

B.4.1 Business and Employment Displacement

On the subject of businesses and jobs, there are three areas of concern highlighted in the comments on the Draft EIR:

- industrial business with blue-collar jobs (manufacturing, distribution, and repair uses),
- small businesses (existing and potential new), and
- rent-sensitive commercial activities.

Clearly, these are not discrete groups; there is overlap among the categories. Moreover, their space needs and location preferences vary, complicating both impact assessment and the design of solutions to mitigate impacts.

The concerns for these groups are raised in analysis of C-3 District development patterns under the Plan and Alternatives. The different sets of policies would have direct effects on the C-3 District location options for businesses in these groups and indirect effects outside the C-3 District. These real estate market effects would apply to both existing businesses and potential new businesses. The land use and real estate development and business and employment sections (Impact, Alternatives and Mitigation) of the EIR provide information on the range of impacts and possible approaches to mitigation. This response presents the highlights of the EIR discussion, more detail related to development pressures south of Market Street, and analysis of suggested mitigation measures.

Effects in the C-3 District

The economic factors behind the decline in manufacturing and distribution activities in industrial space in the C-3 District will continue regardless of C-3 District policies. (See p. H.34 in Appendix H of the Downtown EIR Consultant's Report. Also see Franklin James, "Industrial Decentralization and the Function of the Central City," in Jobs and Cities: Patterns and Dynamics of Location Change, Franklin James and Raymond Struyk, ed., Mimeo: The Urban Institute, available for review in file EE81.3 at Department of City Planning offices.) The City has developed to the point at which a downtown location is no longer an advantage for these types of firms. Factors specific to particular industries (such as changes in demand, sources of supply, or production technologies which affect space and location requirements) will also determine the future for the few manufacturing and distribution activities remaining in the C-3 District. (It is estimated that there are about 6,500 workers in industrial/warehouse/automotive/parking activities in the C-3 District in 1984. Almost half are located in Subarea 3; most of the rest are divided between Subareas 2 and 5. See Table IV.C.10, p. IV.C.27.) Over time, some of these firms will be able to stay in business by moving to more suitable locations; others will go out of business. In the C-3 District, the strongest real estate market pressures on these activities will be in Subarea 2. Some industrial activities could remain longer in Subareas 3 and 5, depending on C-3 District policies.

C-3 District policies do make some difference in the rate at which employment in these industrial categories declines in the downtown area. This is due to differences in both the amount and location of new development forecast for the C-3 District (affecting the demolition of industrial/warehouse space), and the pressures for conversion of industrial/warehouse space to provide lower-cost office space. For example, the loss of employment in the industrial/warehouse/automotive/parking categories would be greatest under Alternative 3 (Proposition O), in which new development requires more sites in the peripheral downtown areas compared to Alternatives 1 and 2, and there are pressures to convert industrial space to satisfy the office demand that is not accommodated in new development. Under the Downtown Plan and Alternative 5, the pressures for conversion are higher than they otherwise would be because of the lower amount of new development. Under Alternative 4, although demand for converted industrial space would be strong, the costs imposed by the housing requirement would not be offset by higher rents for converted space, effectively precluding much of this activity. The forecast for industrial/warehouse/automotive employment under Alternative 4 reflects continued decline in these categories primarily for reasons other than conversions or demolition. In the EIR, pp. IV.B.48-IV.B.49 and pp. IV.C.35 and IV.C.45 describe the implications for these industrial/blue-collar activities of the real estate market effects of the Downtown Plan.

The Downtown Plan economic analysis does not quantify employment specifically by size of business. A complex analysis would be required to add this distinction as an overlay to the definition of business activities. Because business size is only one of several factors affecting the business location decision, this additional level of analysis was not justified.

The more general analysis that was done indicates, however, that there are many small firms in business and retail service and wholesaling activities. These are the firms most sensitive to the costs of commercial space. Location options in the C-3 District for these types of firms will be limited in the future, and these businesses will provide a large part of the demand for converted space. Those most likely to remain in the C-3 District and for which some growth is expected are businesses providing goods and services to office clients or to the tourism and retail sectors. Under Alternatives with more office space development (Alternatives 1, 2, and 3), most of these firms would be able to find suitable C-3 District locations. Under the lower growth policies (Alternative 4, 5 and the Downtown Plan) more would look for lower rent-space outside the C-3 District. (See pp. IV.C.32-IV.C.35 and VII.C.2-VII.C.7.)

Effects in Adjacent Areas

Other effects of C-3 District policies on existing industrial/blue-collar businesses and on small business opportunities will occur outside the C-3 District. Most of the City's industrial businesses are located outside the C-3 District, and the ability to provide lower-cost space for rent-sensitive activities is greatest outside the C-3, under the Plan or any Alternative. The indirect effects of C-3 District policies outside the zoning boundary will be due to spillover of office development and demand for space from relocating businesses.

The EIR analysis of the C-3 District real estate market considered land use characteristics and development trends in areas adjacent to the C-3 District. The Draft EIR presents information on the likely effects of different C-3 District policies in these areas in terms of both land use and

Within Subarea 1, the location of major new office development would shift to the south over time, due in part to the policies of the Plan, but also in response to general real estate trends. During the 1984 to 1990 period, new office development in Subarea 1 would be split almost evenly between the north of Market and south of Market Street portions of the subarea. Under the Downtown Plan, between 1990 and 2000, the majority (about two-thirds) of new office construction in Subarea 1 (three million sq. ft. of space) would be developed south of Market Street. The Plan would result in the most marked shift towards south of Market Street locations during this time period, compared to the Alternatives. Over the complete forecast period (1984-2000), about six million sq. ft. of new office construction is expected to occur in the south of Market portions of Subarea 1 under the Downtown Plan policies. Moreover, office development in Subarea 2 would represent a larger share of total C-3 District office development under the Plan than under the Alternatives.

There would also be development south of Market Street west of Yerba Buena Center. The amounts, however, are relatively small. There would be more development in these areas under the higher growth Alternatives (Alternatives 1, 2, and 3) than under the Plan or Alternatives 4 and 5. (See Table VII.B.3, p. VII.B.9.) Between 1984 and 2000, about one million sq. ft. of new office construction is forecast for Subareas 4 and 5 under the Downtown Plan, about 5.4 percent of total new C-3 District office development during this period. Most of the changes due to office development would occur between 1990 and 2000, during which period 300,000 sq. ft. are forecast for Subarea 4 and 400,000 sq. ft. are forecast for Subarea 5. (See Table IV.B.12, p. IV.B.35.) Another 660,000 sq. ft. of new hotel development is forecast for Subarea 5 during this period under the Downtown Plan. (See pp. IV.B.45-IV.B.47.) Other development is forecast for the early part of the forecast period (1984-1990) in Subarea 5: almost two million sq. ft. of hotel development. All of this is in projects already approved and thus not affected by new C-3 District policies. Most of the hotel development is north of Market Street. (See p. IV.B.29.)

As is the case in Subarea 1, an increasing proportion of the new office development Subareas 4 and 5 would occur south of Market Street. Prime development sites would be those with moderate to high height limits and little existing development. Most of the new development forecast for these subareas could occur on large vacant sites or parking lots south of Market Street. In fact, because of the availability of these types of sites, the effects of new development are likely to be concentrated, as opposed to dispersed throughout many south of Market blocks. (This would also be true under the Alternatives, with the exception of Alternative 3, which would result in a more dispersed development pattern.)

Another important component of the office supply and land use change forecast is the conversion of existing space. In Subarea 5, between 1990 and 2000 under the Downtown Plan, more space could be provided in this way than in new construction. Subarea 3 would be the other area in which there would be pressures for conversion of existing space. The South of Market Industrial Conservation Special Use District controls or similar legislation would inhibit conversions in this more peripheral area, however.

There are also other plans and approved projects for the south of Market Street areas that are somewhat independent of C-3 District policies and development. These include Mission Bay, Showplace Square, Rincon Hill, Hills Bros., and projects in the Second Street corridor. (See Section B.2 above for a discussion of how these are incorporated into the C-3 District forecasts and impact assessment.) These plans and projects will also affect existing south of Market businesses and the future character of the south of Market areas beyond the C-3 District.

The real estate market implications of the above-mentioned plans and projects as well as C-3 District south of Market Street development and spill-over effects are discussed at length in the comments. The concern is for the housing stock and the industrial and small commercial businesses that are currently located in these areas. (Implications for housing are specifically addressed in Section B.4.2.)

The EIR presents generalized conclusions about the effects of different C-3 District policies on these activities outside the C-3, as discussed previously in this response. The EIR cannot address impacts in other City areas in the same level of detail (i.e., quantification) as for the C-3 District, because existing conditions have not been similarly documented nor economic and business trends analyzed for non-C-3 District activities. These tasks are part of planning studies that are underway to evaluate future land use and employment outside the C-3 District. (South of Market, Rincon Hill, Van Ness Avenue, Chinatown, and the Tenderloin are all being reviewed for re-zoning and new controls.) An important part of these analyses will be assessment of existing land use conditions and of the impact of surrounding development patterns on land values and expectations.

Such an in-depth assessment of real estate market dynamics was a key element of the analysis of the effects of C-3 District planning policies in the C-3 District. The real estate analysis used data on existing land use and development patterns, the results of real estate feasibility tests, and assessment of the expectations of landowners, developers, and lenders, as well as the behavior of present and prospective tenants as the basis for the C-3 District forecasts. Appendix G in the EIR contains a detailed discussion and charts describing the real estate market interactions behind the C-3 District forecasts. (See pp. G.12-G.17.) Other sections of the appendix are devoted to description of the real estate economics of conversion and demolition and how these land use changes were estimated for the forecasts. (See pp. G.23-G.26.)

These same factors were considered in a more generalized way for areas outside the C-3 District. It was not necessary to do a full-fledged analysis of existing activities and expectations for change independent of C-3 District policies to complete the assessment of whether or not C-3 District policies would make a difference in nearby areas. The conclusions highlighted above and presented in the EIR were based on this type of reasoning.

In summary, the natural expansion area for the downtown is south of Market Street, and development pattern shifts in this direction are already underway. When viewed from a longer-term perspective, C-3 District policies will affect the timing of these shifts, but policies specific to the south of Market will determine the amount and pattern of change that occurs there.

The land area south of Market Street is large, and the availability of development sites and underutilized space is large. It will take a long time beyond the year 2000 for real estate market pressures from office and other higher-rent paying uses to extend throughout this area. Nevertheless, industrial and service businesses will be displaced due to demolition or conversion of their space, while other existing businesses will move because of rent increases. There will also be long-term land owners and businesses that own their property and realize substantial financial benefits due to changing development patterns.

In conclusion, although the EIR cannot provide the definitive answers regarding policies for managing future changes outside the C-3 District, it does have an important role in the on-going planning process for these areas: identifying the potential development patterns and spillover effects set in motion by C-3 District policies, as well as highlighting the major planning issues related to business displacement and employment opportunities, and the inter-relationship of land use change and the real estate market.

Proposed Solutions for Displacement and Small Business Growth

The development of new office space in the C-3 District usually results in the demolition of existing space. This has the immediate effect of displacing existing businesses which have to look for alternative locations. Because existing space is usually less expensive than new space, the supply of more moderate-rent space is reduced by new construction and demolition. Since the demand for lower-rent space already exceeds the supply, the reduction in supply, in addition to the increased demand from displaced businesses, results in more competition among tenants who cannot afford the higher-rents of new space.

The comments on the Downtown Plan Draft EIR suggest changes to the proposed Plan in order to protect existing businesses and to provide an adequate supply of lower-rent office space for small business. These changes include (1) lower floor area ratios (FAR) and/or lower heights (which would diminish the incentive for new construction on the sites of existing buildings) and (2) limits on the amount of new development approved annually. The intent of these changes would be to reduce the amount of new construction while retaining the supply of existing, lower-rent space.

To the extent that it requires demolition, new construction reduces the supply of moderate-rent office space. New construction also increases the total supply of office space. Both of these factors must be considered in analyzing the overall effects of new construction on the supply of office space at various rents. The effects of both of these factors can be demonstrated by comparing a situation with relatively large amounts of new construction to a situation with relatively smaller amounts of development.

- More new construction provides more high-quality space for those who prefer new space and are willing to pay high rents for it.
- More new space, compared to less new space, results in less competition for existing space and less pressure for rehabilitation/conversion of space on the periphery from the higher-rent-paying tenants.

- The larger amount of new construction also results in more demolition of existing space than a smaller amount of new construction. With more demolition, there is more competition for the remaining space in existing buildings and more pressure for rehabilitation/ conversion from those who prefer or can only afford more moderate-rent space.

This analysis indicates that the suggested constraints on new office development (lower FARs or heights, and annual limits) would affect not only the supply of existing lower-rent space, but also, eventually, the rents and tenants in that space. The two approaches would have different impacts as mitigation solutions for displacement and small business opportunities. The extent of these impacts depends on the degree of constraint, i.e. how low the FAR or height, and how low the annual limit.

Reducing FARs or height limits would result in more sites being required to accommodate the demand for space than would otherwise be the case (although somewhat less growth would also be the consequence). New development and conversions would extend over a wider area. More buildings would be demolished (although not necessarily more space) and more existing space would be converted. Therefore, this approach could result in more business displacement than would otherwise be the case. At a minimum, it is likely that more different types of businesses would be displaced: less small office activities in relatively large, older buildings in the central areas and more industrial activities in the low-density peripheral areas. (Alternative 3 analyzed in the EIR would have these effects.)

Imposing an annual limit on the amount of space approved or built each year would have different impacts. To the extent that those preferring new space would shift their preferences to existing space, there would be more competition for existing space, supporting upgrading, higher rents, and, subsequently, more conversions. Since the amount of new space added would be constrained, all rents would eventually be higher than otherwise. Annual limits would result in less demolition of existing space for new development and thus less immediate displacement impacts. The effects of the general increase in rent levels could have more widespread effects on rent-sensitive businesses, however. (See pp. V.A.1-V.A.5 and V.C.1-V.C.2 in the EIR.)

In conclusion, while the suggested mitigation measures have some immediate appeal, closer examination demonstrates that the effects over time would probably not satisfy the original intent. In both the C-3 District and adjacent areas, policies to protect existing businesses and provide lower-rent space would be most effective when focussed on specific areas. The mitigation section of the EIR discusses potential options. Generally, zoning to allow for new office development as well as conversions in certain locations would help to reduce demand pressures on existing space in other areas. In the C-3 District, allowing new highrise development would accommodate demand from higher-rent-paying tenants thereby reducing displacement pressures on lower-rent-paying tenants in existing space. At more outlying locations of the C-3 District and beyond, policies which set aside locations suitable for lower rise new development and conversions and which designate areas in which no new development would be allowed could be successful in providing options for less competitive commercial and industrial activities.

The Effect of Downtown Development on Port Operations

One commenter expressed concern about the effect of downtown development on San Francisco Port operations and associated blue collar jobs. In response, C-3 District development is not expected to affect maritime activities of the Port. Port properties in the vicinity of the C-3 District are currently in commercial use and there are plans for expanded commercial activities there (such as in and around the Ferry Building). Downtown development enhances these commercial activities on port properties and is compatible with them.

There are many reasons why the port properties in and around downtown are no longer in maritime use. While downtown development may have contributed indirectly, it was not among the primary or critical factors. The major shifts in the 1960's and 1970's to container technology and its requirements for back-up land areas and for rail and truck access made it difficult for downtown waterfront sites (and the old finger piers) to remain competitive with other San Francisco waterfront locations south of the Bay Bridge and, particularly, with waterfront locations in the East Bay.

B.4.2 Loss of Housing and Displacement of Residents in the C-3 District and Adjacent Areas

This section of the responses to comments addresses the issue of the loss of housing stock attributable to C-3 District development and the resultant displacement of the people living in that housing. The extent to which policies would make a difference is also discussed. This section is the companion piece to the preceding section (B.4.1) on the displacement of businesses and employment. Conclusions about both issues are based on analysis of the effects of C-3 District policies within the context of real estate market dynamics both in the C-3 District and (due to spillover effects) in adjacent areas.

The following discussion is limited to the direct loss of housing and displacement of residents due to demolition or conversion of the existing housing stock and to "gentrification" in the C-3 District and adjacent areas. Section D.3.1 below discusses the indirect effects of C-3 District growth (as a consequence of the housing choices made by C-3 District workers) on existing residents and housing, in response to comments which use the word "displacement" to refer the effects of "gentrification" in areas of the City further removed from the C-3 District. (This indirect effect is the result of many factors, only one of which is the amount and type of employment growth in the C-3 District.)

The comments generally express concern that the pressures for demolition and conversion of housing in the C-3 District and adjacent areas, as a result of the growth of commercial activity and the expansion of the downtown into areas developed earlier as residential neighborhoods, are not adequately documented in the Downtown Plan EIR. The concerns arise because these areas contain much of the City's lower-cost ("affordable") housing. Many of the residents of these areas are lower-income households with few other housing options. The comments point out existing and potential conflicts between the types of activity allowed and expected to grow in the C-3 District and the downtown area's traditional role as a lower-cost residential area. The comments state that the policy changes and ordinances designed to protect existing housing downtown are ineffective and request that the EIR analysis acknowledge how much housing could be lost due to development pressures. The comments also suggest potential additional means of reducing and mitigating the direct displacement impacts of C-3 District development.

These issues are addressed below. First, however, there is an overview discussion which summarizes the Downtown Plan EIR approach to analysis of the downtown housing stock and how to forecast future changes attributable to land use and zoning policy. This is followed by information (as requested in the comments) that expands on the data provided in the EIR to describe the existing housing stock in the C-3 District. The two subsections provide background to the subsequent discussions of potential future housing loss and displacement of residents in the C-3 District and adjacent areas, the effectiveness of housing protection policies, and the overall perspective on commercial development patterns and the future for residential uses in the downtown area.

Real Estate Market Perspective On Existing Downtown Housing

The Downtown Plan EIR presents forecasts of land use change and employment growth in the C-3 District based on different sets of land use policies (the proposed Plan and five Alternatives). The existing distribution of land uses, trends in the development pattern, the likely future demand for space, as well as the specific zoning and land use policies define the real estate market context for making these forecasts (see Section B.1 above). From this perspective, the housing stock in the C-3 District is considered as one among several land uses.

In the real estate analysis, the location of housing within the C-3 District was one consideration in judging the attractiveness of various locations for new commercial development. The feasibility testing conducted as part of the real estate analysis accounted for the relative size of residential structures in the C-3 District, compared to both allowable new development and other existing buildings. This analysis indicated that, because of the relatively large size and the peripheral location of residential buildings in the C-3 District, a large share of these residential units would not be subject to pressure for demolition for new commercial development, at least during the time period of the EIR forecasts (1984-2000). Most of the prime development sites in the C-3 District (that provide more than enough new space by 2000) do not involve the demolition of existing housing.

On the other hand, the more prevalent (and harder to forecast) real estate market pressures on the existing housing stock are for conversion to either office or transient use (i.e. tourist hotels). In this case, the characteristics of the stock increase its vulnerability to change. Given the location and size (primarily apartments and residential hotels), most of the existing stock is particularly suited to this type of conversion.

The EIR analysis of the downtown housing stock is more general than some commenters would like. The Downtown Plan EIR is or will be supplemented by more in-depth housing analyses carried out by the Department of City

Planning for the Residence Element, progress reports on the Residential Hotel Conversion and Demolition Ordinance, and separate planning studies for the Tenderloin (North of Market Mixed Use District), Chinatown, North Beach, and south of Market areas both within and outside the C-3 District. The threat posed to the existing downtown housing stock by expansion of intensive commercial development gave rise to these in-depth studies. The EIR did not duplicate these efforts, but the analysis in the EIR reinforces conclusions that were already recognized and, as in the case of small business and employment displacement, highlights the areas in which future policy decisions (for both the C-3 District and adjacent areas) could have an effect on the outcome.

Existing Housing Stock

With regard to the housing stock in the C-3 District and adjacent areas, C-3 District policies must be viewed in conjunction with other City policies and plans that are specifically designed to deal with housing issues. This is particularly true of the proposed Downtown Plan, because the Plan proposes revisions to the C-3 District boundaries in recognition of the "encroachment by commercial uses" (Plan, p.44) into residential areas adjacent to and currently within the C-3 District boundaries. It is true, as stated in the comments, that to correctly analyze policies to protect and expand the supply of housing, detailed analysis of the existing stock and of the areas for which the plans are to be developed is necessary. These studies for re-zonings (in the North of Market/ Tenderloin, Chinatown, North Beach, and south of Market Street) are in various stages of preparation by the Department. Because of the need to complete these separate studies, specific policies were not proposed in the Downtown Plan beyond the general objective of protecting housing. Therefore, the impacts of implementing specific policies were not addressed in the EIR. This does not mean that the Plan or the EIR "ignore" these important housing issues. On the contrary, the very importance of these issues required the kind of in-depth analysis suggested, as a complement to the EIR analysis of C-3 District policies.

The EIR contains a general discussion of the downtown housing stock. The C-3 District land use inventory provided an estimate of the amount and distribution of residential space in the area, separately identifying residential hotels (See Table IV.B.1 on page IV.B.2). Most of the housing is located on the periphery of the C-3 District. (Therefore, it is not likely to conflict with prime sites for new development.) Over 60 percent is in residential hotels and other housing in Subarea 5 (the Tenderloin and some south of Market areas). Another 25 percent is split about evenly between Subarea 3 (south of Market Street) and Subarea 7 (Chinatown). Both of these areas have more residential space in apartments than in residential hotels. The other subareas contain relatively small amounts of housing.

To supplement this information, the EIR presents 1980 Census data tabulated for the census tracts which most closely approximate the boundaries of the C-3 District. The EIR text and tables show owner-occupied, renter-occupied, and vacant units in these tracts, in total, and as a percent of the total units in these categories in the City. Median rents are also compared. The changes in the downtown housing stock in each category between 1970 and 1980 are also described. (See pp. IV.B.9-IV.B.11.)

The following paragraphs supplement the EIR further. They describe the current conditions and trends for the housing stock and residents of areas in and adjacent to the C-3 District where most of the downtown housing is concentrated. This information is being collected for the re-zoning studies for these areas.

Van Ness Avenue.* There are 2,296 existing dwelling units within the Van Ness Avenue Plan study area, extending along Van Ness Avenue from Golden Gate Avenue north to Beach Street. There are 27 single room occupancy (SRO) units in one residential hotel building along the Van Ness corridor. South of the Van Ness Avenue Plan study area, at Market and Franklin Streets, lies one residential hotel with 293 single room occupancy (SRO) dwelling units.

Based on an October 1983 Department survey of Van Ness housing rental rates, most of the units within the Van Ness Plan study area are one bedroom apartments. 1980 Census information indicated an average 1980 monthly rental rate of about $300. A recent (October 1983) supplemental DCP survey of Van Ness housing found average rents from $450 to $500 for studio or one bedroom units.

Based on 1980 Census information, there are approximately 3,335 persons living within the study area, most of whom are renters (92%). The average areawide household size is 1.45 persons per household. Forty-seven percent of the population are one person households.

About 67 percent of area households would be considered low-income, based on federal Housing and Urban Development (HUD) and local office of Housing and Economic Development (OHED) criteria, and about 19 percent would be considered moderate or middle income households.

There are no known subsidized senior housing units in the study area, although there is one 300 unit senior housing project near the study area boundary at Eddy and Polk streets.

South of Market Special Use District. The total number of dwelling units, including seasonal units, is 5,974 according to the 1980 Census. The more appropriate figure is the year-round housing units: 5,940 (1980 Census). The total number of occupied housing units at the time of the Census was 4,954. The Census shows 4,986 people in occupied housing units. There are approximately 23 residential hotel buildings with 817 residential hotel units or SROs in the South of Market Special Use District. (Bureau of Building Inspection, Department of Apartment and Hotel Inspection (DAHI) Unit Usage Report printout for March 1984.)

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*A commenter raises the issue of the Van Ness Plan and its relationship to affordable housing. The Downtown Plan EIR is not the appropriate place to discuss the provisions and requirements of the Van Ness Plan. They are the subject of a separate planning study and environmental analysis.

The median housing value was $75,000 and the median contract rent was $152, according to the 1980 Census data. There is no accurate information on current housing and rent structures in the South of Market. The SOM study (in progress, to be completed late 1984) will include a survey of residents, which will indicate existing residents' need and demand for open space, transportation/transit services, and some housing information.

The total number of persons in the South of Market is 10,051 according to the 1980 Census. The Census counts 1,007 families and 4,718 households. The families and households are concentrated in Census Tracts 176.01 and 178, implying that family housing is concentrated in these two Census Tracts.

The Redevelopment Agency project area in the South of Market, usually referred as the Yerba Buena Center, contains 863 low and moderate income housing units, 91 under construction and 200 more under review and proposed. There are also 410 market-rate units under construction and 540 scheduled for later development in YBC (San Francisco Redevelopment Agency Program, Summary of Project Data and Key Elements, 1984).

Chinatown. The Chinatown Planning and Rezoning Study, now in process, covers 34 blocks or portions of blocks adjacent to the financial and retail districts of Downtown. The existing zoning of the study area is comprised both of C-3 (Downtown) and C-3 (Community Business) districts. Housing in this area is predominantly residential hotel rooms and a lesser proportion of apartment units.

A 1984 residential survey of the study area found 6,610 housing units. There are 3,850 residential hotel units (or 58% of total housing stock). At the beginning of 1984, the average rent for the residential hotel units, as reported in the Progress Report on San Francisco's Residential Hotel Conversion and Demolition Ordinance, was $115 per month.

The residential survey also indicated that 2,760 apartment units are located in the study area. The Ping Yuen public housing project comprises 422 units or 16% of the existing apartment housing in the area. Rents for the public housing are set in relation to a certain percentage of residents' incomes. The average rental for market rate housing in 1984 is not known. Five years ago, according to the 1980 Census, the median rent for an area roughly equivalent to the study area was $179 per unit. This figure includes some residential hotel units and public housing units as well as market rate housing. (Data on numbers of dwelling units from the 1980 Census are not comparable to the survey information because of differences in boundaries.)

North of Market. There are 16,375 dwelling units with the North of Market area, and 20,370 residents. There are 6,978 residential hotel units in the North of Market, and 9,397 apartments. Over 60% of the units are in buildings with more than 50 units. (This information is based on a 1982 report by the Department of Apartment and Hotel Inspection.)

Less than two percent of the units in the area were reported to be owner-occupied, compared to 32% citywide. The vacancy rate was reported in the 1980 Census to be about 11%.

These residential units are small: 87% have only one or two rooms. Households are small in size too, since 70% of the units are occupied by only one person. Nevertheless, many units are overcrowded: 10% of the units have more than one person per room. (This information is based on 1980 Census data.)

According to the 1980 Census, rents in the North of Market Area are considerably lower than the citywide average, even though they are high on a per room or per sq. ft. basis. This reflects the fact that the units in the North of Market Area are much smaller than those in the rest of the City. According to the 1980 Census, the average rent was $180 for an apartment, and $130 for a residential hotel unit.

North Beach. According to a survey conducted in the Fall of 1983, there are about 3,640 dwelling units in the North Beach Study Area. These are divided into 1,221 dwelling units in apartment buildings and condominiums plus 2,416 rooms in 62 residential hotels. The study area has been roughly divided into two parts for the Neighborhood Commercial Rezoning Study; the two new areas do not correspond exactly to the old North Beach Study Area boundaries. The proposed North Beach Neighborhood Commercial District includes 950 dwelling units, plus 24 residential hotels with 1,190 rooms, for a total of 2,140 dwelling units. The proposed Broadway Neighborhood Commercial District includes 123 dwelling units, plus 1,025 rooms in 31 residential hotels, totalling 1,148 dwelling units.

These study areas include only the commercial districts in the areas--those designated C-2, plus Assessor's Blocks 41 and 52 which are permanently zoned RC. There are no appropriate roughly contiguous census tracts; therefore, no 1980 Census data are available to provide any information on changes in numbers of units between 1980 and 1983 or any information on average rents in these areas. The Department's 1983 surveys did not include information on rents of either residential hotel units or other dwelling units.

Analysis of Impacts on Downtown Housing

Loss of Housing Units. The downtown real estate market pressures affecting the older existing housing stock in the area are already in evidence. When the real estate market supports (and the zoning allows) commercial uses such as offices and hotels, then the possibility exists for owners to redevelop or convert their property to a use offering greater financial return. This situation exists within the current C-3 District and in adjacent areas such as Chinatown, North Beach and the south of Market areas. Generally, the property will remain in residential use until the demand for commercial space appears to make demolition and new development or conversion feasible.

The Plan and the Alternatives incorporate different policies related to the protection of existing C-3 District housing. The Residential Hotel Conversion and Demolition Ordinance (RHCDO) is assumed to apply under each. Alternatives 1, 2, and 3 have no other policies specifically related to the protection of housing. Alternatives 4 and 5, include residential re-zoning for the Tenderloin and parts of the south of Market area within the C-3 District. Alternative 4 includes a housing replacement requirement. The

EIR analysis assumes that efforts incorporated in the Downtown Plan and other Alternatives to protect housing would be effective. The EIR also notes that if this assumption were not correct, then more housing would be lost (p. IV.B.53).

The "harmful possible impact" of C-3 District development on the downtown housing supply is identified in the analysis of the Alternatives and in other examinations of the expansion of commercial activity in the C-3 District undertaken by the Department of City Planning (Chinatown Rezoning Study, North of Market Rezoning Study, South of Market Rezoning Study, Progress Report on San Francisco's Residential Hotel Conversion and Demolition Ordinance). The conclusions of these analyses are the basis for the changes in C-3 District zoning proposed in the Downtown Plan which remove the sensitive areas with large concentrations of housing from the C-3 District (as in Alternatives 4 and 5) and for the requirement that demolition and conversion be subject to conditional use approval, pending adoption of an ordinance regulating demolition and conversion. The information developed in analyzing the Alternatives (some of which did not include such provisions with regard to existing housing) provides some basis for estimating the potential loss of housing if the protective policies were not effective.

The EIR real estate analysis indicates that there are enough attractive potential development sites that large amounts of housing would not be lost to demolition before the year 2000, under all Alternatives. Between 1984 and 1990, the EIR forecasts of land use change show a small amount of housing lost to demolition in the C-3 District. This forecast does not represent all the demolition that occurred previously to make way for projects now approved or under construction (e.g. Yerba Buena Center) that would be built and occupied during this time period. Many of the sites on which the new development forecast for this period would occur are already cleared. The policies of the Plan or Alternatives would not affect demolition and new development until late in the 1980's.

Some housing in the C-3 District would be demolished during the 1990-2000 forecast period under all of the Alternatives, to prepare sites for office, retail, or hotel development. The real estate analysis and land use forecasts in the EIR are not site-specific but do provide an indication of the magnitude of the housing loss, relative to other demolition and the existing housing supply, and also of the general locational pattern of this demolition.

In Alternatives 1, 2, and 3 (the Alternatives without specific housing protection policies besides the RHCDO) about 90,000 to 100,000 sq. ft. of housing would be demolished for new construction, from 1990 to 2000. This is a relatively small share (about two percent) of the total housing space (not including residential hotels) estimated to be in the C-3 District according to the 1981 Land Use Inventory (the older housing stock in the C-3 District, just over four million sq. ft. in total). (See Table IV.B.1 on page IV.B.2 of the EIR.) There would be more demolition of industrial/warehouse space and vacant space and more use of vacant lots or parking lots because such sites represent a greater share of the likely development opportunities (due to both location and the amount of existing space involved).

The pattern of housing demolition by subarea would vary among these three Alternatives. In Alternatives 1 and 2 most of the demolition by 2000 would occur in Subareas 1 and 7 (the financial district and Chinatown). Most of the older housing remaining in Subarea 1 would be lost by 2000. Other large amounts of demolition would occur in Subarea 5 (Tenderloin and central south of Market Street). Under Alternative 3, there would be more housing demolished for new construction in Subarea 5 than in the other subareas. This pattern reflects the extension of development south of Market Street (where the existing density of development is low) under an Alternative that lowers floor area ratios and heights throughout the C-3 District. South of Market sites would be relatively more attractive under this Alternative. Little or no demolition is expected in Subareas 3, 4, and 6 under any of these Alternatives. Under these Alternatives, which do not limit the expansion of the C-3 District, more housing would be lost due to demolition over the longer-term.

Alternative 4 would require that all existing housing demolished for new construction be replaced and proposes residential re-zoning of the Tenderloin and the western south of Market within the C-3 District. The forecasts show a small amount of demolition in Subarea 5, generally reflecting the assumption that developers would avoid sites with existing housing in order to avoid the additional cost associated with housing demolition/replacement.

Less housing would be demolished under Alternative 5 than under Alternatives 1, 2, or 3--perhaps about one half of the larger amount. This different forecast reflects the policies of Alternative 5 which affect the amount of new development allowed on a site, development costs, and available sites. Most of the demolition would occur in Subarea 1; Chinatown housing would generally be protected from demolition due to constraints on new development in this area. Less housing than under Alternatives 1, 2, and 3 would be demolished in Subarea 5, reflecting reduced heights and the R-C zoning proposed for large parts of this subarea in Alternative 5, similar to the Downtown Plan proposals. This forecast could be used as an indication of the potential for housing demolition under the Downtown Plan, assuming the conditional use policies proposed in conjunction with the Plan were not effective.

As described above, the real estate analysis indicates that relatively small amounts of C-3 District housing would be threatened by demolition during the forecast period. (The probability of housing demolition would increase over time, however, especially in Alternatives 1, 2, and 3 in which the areas with large concentrations of housing remain under C-3 District zoning.) Beyond the estimates of demolition, there are other issues of conversion and the changing character of existing residential areas within the C-3 District. Residential units could be converted to lower-cost office space, or to tourist hotels and what are sometimes referred to as executive suites, i.e. short-term rentals.

The Residential Hotel Conversion and Demolition Ordinance was assumed to apply under the Plan and all Alternatives. If this ordinance was ineffective and was not strengthened, then some residential hotel units would be lost due to conversion, as well as to demolition. In the absence of protective policies, it is likely that recent trends would continue. The studies referred to above discuss past and current trends and document the loss of housing units to the extent possible with available data. (See discussion below in response to comments about the effectiveness of the RHCDO and other policies.)

Under the Plan and all Alternatives, conversion of residential units could be responsible for more of the loss of existing housing in the C-3 District than would demolition, at least for some time into the future, because of the location and characteristics of the downtown housing stock. Conversions to office are more likely for housing located in Chinatown and in some south of Market locations. Conversions to tourist hotels are more likely for buildings located in parts of the Tenderloin, elsewhere on the periphery of Union Square, and near Yerba Buena Center.

The choice of C-3 District policies would make some difference in the amount and rate of conversions. There would be more pressure for conversions to office use under those policies (Alternative 5 and the Downtown Plan) which imposed the most constraints on new office development. There would be similar pressure under Alternative 4, but the housing production and replacement requirement of this Alternative would apply to office conversions, inhibiting the likelihood of this type of change. Moreover, because of the Downtown Plan's policies limiting the development of new tourist hotels north of Market Street, pressures for conversion of residential hotels and apartments to tourist use would be greater than under the other Alternatives (in which new hotel development would not be similarly constrained).

Displacement of Residents. The loss of housing units as a result of either demolition or conversion results in the direct displacement of the residents of those units.

In response to comments regarding the assumptions in the Draft EIR about the housing protection policies proposed in the Downtown Plan and the issue of the loss of existing housing and the displacement of residents, the last two paragraphs on p. IV.B.53 of the land use and real estate development impact section of the Draft EIR should be revised and expanded to read as follows:

> "If these assumptions about existing housing remaining in the C-3 District are not met, some housing could be lost. Units under most pressure for demolition would be those in small buildings, surrounded by non-residential uses, in locations where commercial demand would be strong (Subareas 1 and 6) or where most development would occur (Subareas 1 and 2). The amount of existing housing demolished would represent a relatively small share of the existing stock by 2000. Most of the C-3 District housing stock (primarily residential hotels and apartments) is not located in these areas, but on the periphery (Subareas 3 and 5) of the prime development areas. If protective policies were ineffective, there would potentially be more residential units lost due to conversion (to office or tourist hotel use) than to demolition. In particular, the policies of the Plan related to new tourist hotel development north of Market Street could result in increased pressures for conversion of Tenderloin residential hotels to tourist use.

> "The conversion or demolition of residential units in the C-3 District would result in the displacement of the residents of these units, many of whom have low incomes and few other housing options. Those displaced would have to look for other housing in the area or elsewhere, and may face higher rents. Some would add to the City's homeless population, others would move in with family or friends.
>
> "Separate from changes in the numbers of units and amount of housing space, there is the question of changes in the prices and rents and in the quality of existing C-3 District housing. Although some change is possible, existing C-3 District housing is expected to continue to be among the City housing with lower than average rents and prices. The main reasons are that the downtown housing stock is older, unit sizes are relatively small, and City policies and strategies for preserving this type of housing for low and moderate income households are adopted in the City's Residence Element.
>
> "The protective policies proposed in the Plan could result in somewhat higher rents and prices than otherwise, as landlords would have more incentive to maximize returns from the residential use because potential future commercial use of the site would be restricted. Such policies may result in more upgrading and maintenance of residential units and in enhancing the residential character of these close-in downtown neighborhoods. This may also result in increasing the appeal of these neighborhoods to those with higher incomes who might not otherwise consider choosing to live there."

Effects Outside the C-3 District. The spillover effects of C-3 District development on the real estate market and land use change in areas adjacent to the C-3 District are discussed in the EIR (see pp. IV.B.55-IV.B.60, V.B.1-V.B.5, and VII.B.8-VII.B.10). The effects cannot be quantified because data describing existing conditions and forecasts of future development have not been prepared for all of the areas consistent with the analysis of C-3 District policies. The magnitude and extent of potential effects are described, focussing on the degree to which different C-3 District policies and future plans and policies for the specific areas could make a difference. The comments request more detail on how C-3 District spillover is likely to affect adjacent areas and residential uses of interest.

The spillover effects of C-3 District policies on the existing housing stock and existing residents are, as in the C-3 District itself, most likely to be conversion of residential units rather than demolition for new development. Generally, these pressures would be evident under the Plan and all Alternatives, although the Plan would accelerate the timing of some of these transitions. C-3 District policies that restrict the amount of new office development would increase pressures for conversions of upper-story North Beach apartments to office uses. The issue of the conversion of Nob Hill residential units to short-term rentals and hotel uses is raised in one of the comments on the Draft EIR. Because most such conversions involve no zoning change or permit application, the Department of City Planning has not been able to identify an accurate means of quantifying the units which have been converted to short-term use. Thus, the Department has no means of verifying the commenter's statement that 19 buildings and 350 units in the Nob Hill area have been converted to short-term use. This phenomenon cannot be directly linked to C-3 District policies, although, as in the Tenderloin, restrictions on new hotel development (as proposed in the Plan) could increase pressures for such conversions.

In the south of Market area outside the C-3 District, the spillover effects of C-3 District development are more likely to be evident in conversion of housing to office/studio use. Over the longer-term, beyond the year 2000, future zoning policies will be particularly important in directing land use change in this area. Parts of the south of Market area could provide the land area and building space suitable for San Francisco's rent-sensitive office, commercial and remaining industrial activities. Policies which allowed this kind of commercial development could have negative impacts on the existing housing stock. Future plans and policies will require specific area analysis to provide suitable commercial and industrial locations while minimizing effects on residential uses.

Effectiveness of Policies to Protect Existing Housing

The EIR impact analyses of the Plan and Alternatives made certain assumptions about how the various policy proposals would work. Demonstrating differences among the various proposals required the general assumption that policies would be effective. These assumptions with regard to housing protection policies are challenged in the comments on the Draft EIR.

Several commenters disagree with the assumption that policies in the Downtown Plan and zoning controls such as those being proposed for Chinatown and the North of Market Mixed Use District would protect existing housing from conversion or demolition. Some comment that the EIR should not rely on an assumption that adequate measures to protect housing will be adopted. Others note that even if adopted, such measures are sometimes ineffective--that the City lacks the means of enforcing policies which seek to prevent the loss of housing and the displacement of residents.

These are valid concerns, as devising effective controls to prevent housing loss has been a difficult process. Commenters have noted that the protections are only as good as the enforcement mechanisms. This is true. Code enforcement has been a problem in the City. However, recent improvements have been made in code enforcement, and new staff have been added to the DCP code enforcement section. City staff are working with the City Attorney's office in a continuing effort to improve the City's code enforcement mechanisms. For the purposes of the EIR, it is reasonable to assume that the City will continue to improve its code enforcement procedures, and that the policies of protecting loss of housing through conversion and demolition will be effective.

Commenters have suggested that the Conditional Use (CU) process is deficient as a mechanism for protecting housing, both because of its case by case application and the adversary procedure involved. It would probably be accurate to state that the CU process is not the most effective of protective measures. Recent experience has demonstrated that the CU process can be useful in requiring mitigation of housing loss, but not in preventing that loss. An ordinance regulating and restricting housing loss due to demolition and conversion would be more effective than the CU process.

Yet, as compared to no control at all, the CU process can be effective in slowing the rate of housing loss and in requiring appropriate mitigation. The CU process allows members of the public to testify about the importance of the potential housing loss, and to appraise the Planning Commission of the details of the situation. Prior to the adoption of a more stringent regulatory scheme, the CU process can be an effective means of slowing down the loss of housing in the C-3 District and adjacent areas.

In lieu of the CU process, the Downtown Plan proposes the adoption of an ordinance prohibiting the conversion or demolition of existing housing. For purposes of the EIR, it has been assumed that such an ordinance would be adopted and would be effective (together with the proposed re-zonings) in protecting housing. If such an ordinance were not adopted, housing in the C-3 District and adjacent areas would be susceptible to demolition or conversion to non-residential use, as described above.

Other comments challenge the assumption in the EIR analysis that the Residential Hotel Conversion and Demolition Ordinance (RHCDO) would prevent the loss of residential hotel units. These comments cite alleged deficiencies in the ordinance, experience in trying to enforce the ordinance, and delays in amending the ordinance, as evidence that the RHCDO cannot be relied upon to protect residential hotel units.

A 1983 evaluation of the ordinance by the Department of City Planning shows that 1,421 units (about 700 per year) had been demolished or converted in 1980-1982 period, a substantial decrease over the approximately 1,200 units per year that had been lost in 1975-1981 before adoption of the ordinance. Moreover, the decrease in the rate of demolition/conversion is probably greater because of differences in the data bases used in 1980 and in 1982. (See the 1983 Report on the Operation of San Francisco's Residential Hotel Conversion and Demolition Ordinance for further explanation.)

It is not the function of this EIR on the Downtown Plan to evaluate the effectiveness of the RHCDO, or to propose amendments to the RHCDO. The Department of City Planning is currently performing such an evaluation as part of its annual monitoring of the ordinance. That evaluation may include recommendations on amendments to the RHCDO, if necessary. For purposes of this EIR, it is appropriate to assume that the RHCDO or some amended version will protect residential hotel units from conversion and demolition. Revisions to strengthen the ordinance are under the control of the Board of Supervisors. If the 1984 evaluation finds the ordinance ineffective, then the Board of Supervisors can choose to tighten up the ordinance.

If the RHCDO is found ineffective, and the Board does not take steps to increase the effectiveness of the ordinance, then there would be continued loss of residential hotel units due to conversion, under the Plan and all Alternatives. Although it is not possible to quantify that potential loss, it is reasonable to conclude that the loss of residential hotel units would reduce the limited supply of this housing resource, potentially leading to an increase in the City's homeless population. Also, any decrease in the supply might lead to an increase in rents for the remaining units, over and above what they otherwise would be. Higher rents may make it more difficult for people of limited incomes to find shelter in San Francisco. Some may move away or move in with others; some would join the City's homeless population.

As noted above, the more constraining policies of the Plan with regard to new hotel development could result in higher rates of residential hotel conversion than would occur under the Alternatives. One of the specific objectives of the Downtown Plan, however, is to protect existing housing in the C-3 District. Towards this end, the re-zonings of parts of the C-3 District are proposed, in conjunction with existing and potential future protective ordinances regarding both residential hotels and other housing in these downtown areas, as strong statements of the intent of City policy. It is therefore reasonable to assume that the additional protective measures in the Plan would be implemented and effective. (A similar assumption regarding proposed policies related to housing demolition results in the lower forecasts of demolition under Alternative 4; see discussion above.)

Related to the issue of residential hotel conversions, a commenter notes that in some cases development pressures in an area induce owners of residential hotels to keep their units vacant in anticipation of substantial profit from future conversion to some other use. Examples are provided of the residential hotels near the newly-completed Ramada Renaissance Hotel that are being held vacant in anticipation of a more profitable future development proposals. Although the RHCDO provides a control on the ultimate demolition/conversion of the residential units, there is no ordinance preventing the owner from keeping the units vacant, and as the comment states, it is questionable that the City could develop an effective and legal means of forcing a property owner to use his property in a certain way. What the City can do is to change the zoning in areas faced with pressures for change. The North of Market re-zoning now being reviewed by the City Planning Commission proposes to change allowable land uses and heights in the North of Market Mixed Use District and would restrict the potential sites for commercial office space and tourist hotels, thereby reducing the incentive for owners of residential hotels and other housing to keep their property vacant in anticipation of future demolition for new commercial development.

Concern that the City's proposal for new fire code legislation will have adverse economic impacts on residential hotels in the Tenderloin was also expressed and is being considered by the Department.

Several comments specifically address the proposed re-zoning for the North of Market Mixed Use District (NOM/MUD). The comments question the effectiveness of the density provisions, height limits, and other proposed provisions for protecting existing housing.

Preservation of the existing residential units was the major purpose of the proposed North of Market re-zoning proposal. A secondary purpose was to encourage production of low and moderate income housing units. The NOM/MUD may allow higher residential densities as a bonus for production of low and moderate income housing units. The Department is analyzing the possible impacts of increased density on the neighborhood and is considering a revised proposal (North of Market Residential Special Use District). This proposal (NOMRSUD) would help preserve the existing housing stock and would include density limits similar to the actual residential densities that exist in the area. Both proposals being considered by the Department (NOM/MUD and NOMRSUD) propose height limits less than the existing controls and permit single family units as well as family housing.

One commenter on the Draft EIR has submitted background material in support of the contention that the proposed NOM/MUD re-zoning would not protect existing housing and that the replacement housing provisions would be ineffective. These materials on the NOM/MUD proposal and environmental analysis are not proper subjects for review in the Downtown Plan EIR. The appropriate place for evaluation and consideration of these issues is the Department's and the City Planning Commission's detailed review of the specific re-zoning of the North of Market area.

Conflicts Between Commercial Development and Housing

This part of the response takes a broader, longer-term perspective to address the issue of maintaining existing residential areas within an expanding downtown. When residential uses are located in or near expanding commercial areas, the potential for land use conflicts exists and concern is raised for the residents of the lower-cost downtown housing. Moreover, the issue is not always one of land use change; real estate market, zoning, and other factors can create conditions favorable to the "gentrification" of downtown neighborhoods. (The term "gentrification" is used here to refer to the neighborhood change that occurs when higher-rent-paying residents are attracted to older, close-in housing, units are upgraded, housing prices/rents rise, existing residents move, and the result is a new mix of residents in the neighborhood.)

Several of the comments express concern that the Downtown Plan is incompatible with the housing needs of existing residents in the C-3 District and adjacent areas. The comments characterize the real estate market conditions set in motion by C-3 District development as "ripple" effects.

Generally, timing is an important consideration when describing the "ripple" effects of downtown commercial development. The real estate market pressures due to the growth of commercial activity do not reach all existing residential areas simultaneously. Moreover, there are some areas that, regardless of commercial zoning, may not be attractive commercial locations for a very long time into the future. Similarly, while some of the housing in and near downtown San Francisco offers a potentially attractive living situation, particularly for young single workers or couples without children who appreciate the style of the housing and its close-in location, this type of neighborhood change is also a gradual process and does not necessarily result in the loss of all lower-cost housing and lower income residents. The rest of this part of the response addresses specific "ripple" effects raised in the comments and identifies where in the C-3 District and adjacent areas the conflicts would be most evident.

Real Estate Market Effects on Housing North of Market Street. The residential neighborhoods of the Tenderloin, Chinatown, and, to a lesser extent, North Beach and Nob Hill are on the "front lines" of change because of their proximity to the financial district and retail/tourist districts in downtown San Francisco. Assuming no re-zoning or other protective policies, the transitional pressures in these areas that have been extensively documented in studies by the Department of City Planning and others would continue in the future.

The EIR (pp. IV.B.58-IV.B.60) and these responses to comments have identified to the extent possible within the more limited scope of this analysis the potential for increased pressures for change under policies (such as those of the Downtown Plan) which constrain the area for new development north of Market Street. In recognition of the existing and potentially greater displacement effects of C-3 District growth on adjacent residential areas, the re-zonings for the North of Market Mixed Use District and Chinatown, as well as the protective policies/ordinances adopted in the 1984 Residence Element, are designed to limit the extent of this transition. The effectiveness of protective measures is an issue for on-going review and evaluation.

The potential for gentrification (a change in the types of residents, not a change in use) is largely independent of C-3 District policies. Parts of the Tenderloin, because of its location, and the characteristics of the existing housing stock, are the north of Market Street areas most likely to experience gentrification. To the extent that protective policies preserved the supply of housing and the residential character of the area, there could be more opportunity for this type of change than otherwise. Property owners would have more incentive to maintain and upgrade their units as the possibility of future commercial redevelopment or conversion is restricted. In other words, policies intended to preserve residential areas from pressures due to commercial development could, in some areas, serve to encourage gentrification. To counterbalance this trend, the Residence Element and proposed area plans include strategies to protect the supply of housing for low and moderate income households.

Development Patterns and Real Estate Market Effects on Housing South of Market Street. Much of the concern about the implications of the proposed Downtown Plan focuses on the south of Market Street area, both within and outside the C-3 District. The comments express concern about the implications of "the southward march of high-rise buildings" for existing businesses and residents of the area.

Section B.4.1 of these responses presents the conclusions of the land use and real estate development analysis of the Downtown Plan C-3 District policies for the south of Market area. The Plan's strategy (different from the other Alternatives) is to re-direct C-3 District office and hotel development from sensitive north of Market Street areas to the south, primarily east of Yerba Buena Center. The pattern of downtown development is already shifting in this direction, and more development would occur south of Market Street in the future under all Alternatives. By limiting the amount of new development that would otherwise occur north of Market Street, however, the Downtown Plan accelerates the rate of change in south of Market Street locations.

More detailed forecasts of the amount of development activity within the C-3 District south of Market Street between 1984 and 2000 are presented in the preceding response section (B.4.1). Most of the new development would be in Subareas 1 and 2 east of Yerba Buena Center. In the areas of most concern from a housing perspective (Subareas 3 and 5), relatively small amounts of new development are forecast before 2000. The real estate analysis of these locations indicates that most of the new development during this time period could be accommodated on large vacant sites or parking lots.

As discussed above (and noted in the comments), it is unlikely that there would be much demolition of existing housing in these areas to create new development sites, especially during the EIR forecast period. The residential hotels in the area are generally in unattractive locations and would require relatively high demolition costs because of the size of the structures. The other housing, primarily along the South of Market alleys, also cannot be characterized as representing near-term opportunities for demolition and new construction.

As in the north of Market Street areas, the effects on the existing housing stock as a consequence of development patterns under the Downtown Plan are more likely to be conversion to office or tourist use than demolition. These effects are more difficult to quantify for the forecasts. The rate of conversion could accelerate from past rates, in the absence of the protective measures to restrict this transition due to commercial development pressures.

As in the Tenderloin, gentrification of south of Market housing is likely to occur over time, regardless of C-3 District policies. It is highly unlikely, however, as alleged in the comments, that "the Downtown Plan will lead to virtually complete displacement of all south of Market lower income households by the year 2000." First, this type of gentrification cannot be solely attributable to the Downtown Plan. Because of the characteristics of the housing stock (as described in the comment) as well as housing market and demographic trends influencing preferences for older urban housing, these real estate market pressures would be evident regardless of C-3 District policies. Second, the south of Market area is large and, while the potential for land use change is great, change of the magnitude described in the comments would occur gradually over a longer period of time. Finally, it should be noted that development of new housing elsewhere in the south of Market (Rincon Hill, Rincon Point/South Beach, and Mission Bay) could take some of the pressure off existing south of Market Street housing. The likelihood of gentrification pressures in existing south of Market residential neighborhoods could be greater, however, with new residential development than without it. This would be most likely to occur near the new residential areas, in the eastern south of Market areas where less of the existing lower-cost housing is located.

A related concern expressed in the comments is for the effects on another special housing resource south of Market Street--artist's live-work spaces. The Downtown Plan would not directly control the south of Market area where most artists live. The planning process now underway for the South of Market will consider ways of protecting artist's space. Part of the purpose of the South of Market planning activities is to continue the

Department's program of studying all commercial and industrial areas for potential re-zoning and control in order to avoid impacts in one area due to the controls placed on another area. These studies are being done on an area-wide basis as staff and funding are available.

The Relationship Between the Residence Element and the Forecasts of Development Under C-3 District Policies. The comments on the Draft EIR suggest that the recent history of the City's Residence Element provides evidence of the probable loss of housing due to C-3 District policies. A commenter asserts the existence of a contradiction between shifting office development into portions of the south of Market area, as the Plan would do, and DCP studies which have identified various sites south of Market Street as having the potential for residential development. In support of this assertion, the commenter notes that on page IV.D.36 the EIR states that, in the future, a larger share of downtown workers will live in the eastern portion of the City. The commenter asks how this could be, if commercial development is going to be there. Finally, the commenter points out an apparent loss of housing sites between the "1982 Residence Element" and the 1984 Residence Element, implying that this reduction reflects the loss of housing due to office development priorities of the Plan.

The Downtown Plan would not direct office development onto sites earmarked in the Residence Element for housing. The Plan proposes to direct office development in the C-3 District to the Special Development District, south of Market Street, east of Yerba Buena Center and north of Folsom Street, whereas housing is expected in other parts of the eastern south of Market area. To illustrate this point, it is necessary to respond to the commenter's comparison of the 1984 Residence Element with the "1982 Residence Element". The current Residence Element, adopted in June 1984, is an update of the Element adopted in April 1983. That Element was based on a substantial revision of the Residence Element adopted in September 1981.

Although there was no 1982 Residence Element, there were two Draft Proposals for Citizen Review circulated in 1982, preparatory to the adoption of the 1983 Residence Element. In one of the 1982 drafts (January), there were maps that identified specific housing opportunity sites. These specific identifications were not in the 1981 element, or in the subsequently adopted 1983 or 1984 elements.

The fact that the 1983 or 1984 Residence Elements do not identify specific housing opportunity sites does not indicate that the DCP is predicting a decrease in new housing in the eastern part of the City. Table 27 on the 1984 Residence Element identifies the potential for 17,500 units in mixed residential-commercial areas east of Van Ness Avenue. Any revision to estimates in the January 1982 draft proposal were based on public comments and further staff review. Based on that review, it was determined that it would not be appropriate to identify potential housing sites in the Residence Element on a site specific basis. Rather, general areas where housing would be appropriate are identified. Such a decision, made in late 1982/early 1983, had nothing to do with the Downtown Plan (which was not published until August, 1983) but was a determination on how best to structure the Residence Element.

Commenters have noted that the 1984 Residence Element (Table 27) identified less housing opportunity sites than the 1983 Element (Table 25). The identified potential units decreased by 5,020, an 8% decrease. These commenters have suggested that this reduction is due to downtown development and the potential effects of the Downtown Plan. Such is not the case.

Generally, the decrease is due to more current data being available on the potential for housing in selected mixed residential-commercial areas at the time of preparation of the 1984 Element. A comparison of the two tables shows that the main components of the decrease are in the areas North of Market, South of Market, Rincon Hill, and Mission Bay. In each of these areas, planning studies or proposals have progressed in the past year. This progression has led to more current data being available on which to base an estimate of future housing potential. The changes in the Residence Element are due to the availability of this more current data, and the 1984 Element represents current best estimates of future housing potential. In addition, the minor (8%) decrease does not represent a significant barrier to the City's ability to increase the housing supply.

Given that the current (1984) Residence Element estimates the potential for 17,500 units in mixed residential-commercial areas in the eastern part of the City, the statement in the EIR that new housing development is expected to be concentrated on the eastern portion of the City in the future remains accurate (page IV.D.36 of the EIR). For example, the CPC has initiated the re-zoning of Rincon Hill as a major residential district, with the potential for approximately 3,700 housing units. Planning for the development of Mission Bay as a major new residential area for the City is also underway, with a development target of about 7,600 units. No housing on the scale described for mixed residential-commercial areas such as Rincon Hill or Mission Bay is envisioned for the western part of the City.

The Past Is Not Necessarily Prologue. Comments have alleged that, in the past, City policies have hastened market forces that encouraged displacement and gentrification. Examples are provided of changes in the Western Addition, YBC, and elsewhere. While the argument can be made that previous City programs have sometimes led to displacement of existing residents, history does not necessarily repeat itself. (See also Residence Element Final EIR, p. 22, and Responses to Comments on that EIR, p. 44.) The policies and programs in the 1984 Residence Element of the Master Plan are designed to protect the existing housing supply and to minimize the potential for displacement. See, for example, Objective 3--To Retain the Existing Supply of Housing, and Objective 8--To Avoid or Mitigate Hardships Imposed by Displacement.

Measures for Mitigating Housing Loss and the Displacement of Residents

The impacts of downtown development on the supply of lower cost housing and the displacement of lower income residents were documented prior to the EIR analysis of new C-3 District zoning policies. Mitigating measures such as the Residential Hotel Conversion and Demolition Ordinance were adopted, special planning studies were undertaken, and the Downtown Plan proposes additional measures to limit these pressures.

In response to comments on the Draft EIR, an earlier part of this section indicates the extent of continued impacts assuming ordinances and policies were ineffective. Strengthening the ordinances and enforcement procedures and/or developing more restrictive area plans could mitigate these potential impacts.

For the south of Market Street areas, the comments suggest different variations on re-zoning: policies reflecting the SPUR South of Market Plan as incorporated in Alternative 4 or enlargement and consolidation of the existing RH and RM zones. The Department is currently studying appropriate conservation policies for the western south of Market area as directed in the ordinance creating the South of Market Industrial and Housing Conservation Special Use District (Ordinance No. 574-83). The common goal of these proposals (the SPUR plan, the extension of existing RH and RM zones, and the Special Use District interim controls) is to protect the existing housing resource in the western south of Market. Mitigating the potential for housing loss in the C-3 District and beyond due to downtown development and its spillover effects is the impetus behind the current planning efforts for this area.

Several comments suggest that annual limits on new office development would reduce the loss of housing and the resultant displacement of residents. Section B.4.1 of this response includes an analysis of the consequences of an annual limit from a real estate market perspective. This analysis points out that there would be more pressure for conversions to office use than otherwise, under an annual limit. Since it appears that demolition of existing housing for new construction would not be the primary reason for the loss of housing under any set of C-3 District policies, an annual limit affecting new construction would not mitigate the main area of concern: conversions to office or tourist hotel uses. There would probably be more pressure for conversions of residential units to office uses, particularly in Chinatown, North Beach, and the south of Market Street areas near YBC. (It has not been suggested that the annual limit apply to new hotel development, so increased pressures for this type of conversion would not be expected.)

A commenter has suggested that a possible mitigation for the effects of luxury hotels on surrounding residential hotels might be a requirement similar to the City's Office-Housing Production Program (OHPP). The OHPP does not apply to hotels at this time, nor would the proposed version being reviewed by the City Planning Commission. The relationship between hotel development and San Francisco housing has not yet been quantified. The Board of Supervisors may choose to investigate this issue, and to impose an OHPP type of mitigation requirement on hotels.

Finally, comments request that the EIR analyze the vacancy decontrol provision of San Francisco's Residential Rent Stabilization Ordinance, particularly the effect of that provision on people displaced due to downtown commercial development. The comments ask if these effects can be quantified, and propose that the elimination of the vacancy decontrol provision be considered as a mitigation measure.

Analysis of vacancy decontrol and rent control, the effects of those controls on housing supply, the potential for eviction, and on displaced residents is not part of the Downtown Plan or any Alternative scenario and is beyond the scope of the EIR. In general, the vacancy decontrol provision, combined with the 4% annual limit on rents, can serve as an inducement towards evictions. Both tenants evicted in this way and others displaced because of the demolition or conversion of residential units for commercial development potentially face higher rents than they were previously paying. It should also be noted that one of the reasons residential rental properties are less attractive to developers and owners than potential commercial uses is the limit placed on the financial return from residential rental property in the Rent Stabilization Ordinance.

As to considering elimination of the vacancy decontrol provision of the City's Rent Stabilization Ordinance as a mitigation measure, such an action was considered by the Board of Supervisors in 1983, was vetoed by the Mayor, and the Board could not muster the votes to override the veto. Thus, even if the City Planning Commission were to recommend vacancy controls as a mitigation measure, the Legislative body has already acted on this issue. The Commission does not have the authority to preempt the Board of Supervisors.

B.5 EMPLOYMENT OPPORTUNITIES

This section responds primarily to questions regarding the benefits of C-3 District growth for City residents (in terms of employment opportunities) and the forecasts of residents working in the C-3 District. There are a few responses that also apply to comments regarding employment benefits for those living elsewhere in the region. The first part of the response discusses C-3 District job growth from the perspective of opportunities for City residents (and others) in need of jobs, the primary concern of many of the comments. The rest of the section deals with sub-issues of this overall concern, such as the importance of job turnover as a source of job openings, the request for a labor pool analysis, and the use of data and forecasts presented in the EIR to measure employment benefits for City residents.

The EIR analysis identifies the numbers and types of C-3 District jobs which will grow and how the demand for labor from C-3 District businesses might change over time. (See pp. IV.C.50-IV.C.54 and VII.C.7-VII.C.10.) The analysis also identifies how alternative C-3 District policies could make a difference in the employment scenario. The forecasts demonstrate that C-3 District employment growth covers a broad range of labor force characteristics and that not all job growth is in the more highly-paid professional positions, as is sometimes argued.

There are many factors affecting both the future employment needs of City residents and the demand for labor by businesses in the City. C-3 District employment and potential job growth are not the only relevant considerations. San Francisco has and will continue to have a resident labor pool with a diversity of characteristics. The diversity of the City's business economy, in terms of providing the most employment benefits for City residents, is an issue for citywide concern, given the clustering of economic activities in different areas of the City. Moreover, national, regional, and industry-specific economic factors will probably have more effect on future job opportunities for the City's unemployed or underemployed than will new C-3 District planning policies.

This is not to imply that assessments of employment needs and how they might be matched are not possible or worthwhile. The EIR provides a basis for assessing the role of C-3 District employment in meeting these needs. The C-3 District, because of the large size of the workforce, is an important source of jobs for San Francisco residents. As described in responses to specific comments below, job turnover in the C-3 District is the source of the largest number of job opportunities at any one time. Over time, however, C-3 District growth adds to the total number of job opportunities and affects the mix of types of jobs in which there could be openings. These factors are discussed in more detail below.

B.5.1 Entry-Level Opportunities and Job Openings

Blue-collar and White-collar Jobs

Use of the Downtown Plan EIR analysis of future C-3 District employment to determine how the City's unemployed and those just entering the labor force might benefit from C-3 District growth must recognize the current nature of economic activity in the C-3 District. The C-3 District is a major office center with attendant supporting economic activity, as well as a major tourist center characterized by retail and hotel activity. Manufacturing, distribution and repair activities have largely moved out of the C-3 District or have gone out of business due to both C-3 District development pressures and industry-wide trends. Traditional blue collar jobs (employment in industrial/warehouse/automotive/parking business activities) were only 2.6 percent of total C-3 District employment in 1981. This percentage will continue to decline.

Although blue collar employment is no longer a major factor in considering future C-3 District employment scenarios, the issue of the types of employment opportunities provided by blue collar jobs are important. These concerns are more applicable to future development in other City areas or in the region overall, however. (See Section B.4.1 regarding citywide efforts for achieving and maintaining a full range of business activities, functions, and jobs in San Francisco.)

While the blue collar/white collar distinction is not useful in categorizing C-3 District employment opportunities, the important categories are service, technical support and clerical occupations. These categories include the bulk of the entry-level job opportunities for both new labor force members (youth, immigrants) and the unemployed without many skills. These opportunities are found in the office, retail, and hotel sectors which represent the major economic activities in the C-3 District and which are expected to grow.

In 1984, 56 percent of the C-3 District workforce (not including construction workers) are in clerical, sales, services, crafts, operatives and other occupations. About half of these are clerical workers, reflecting the dominance of office activities in the C-3 District. In 1984, 31 percent of the total C-3 District workforce are in the less than $15,000 (1982 dollars) wage/salary category. (See Table IV.C.11, p. IV.C.28 of the EIR.) These are most likely to be entry-level workers in the above-mentioned occupations. There will be turnover in these jobs as current workers quit, are fired, retire, or are promoted to other positions. This type of change in the C-3 District workforce will be the source of most job opportunities, regardless of the policies chosen for the C-3 District. (This factor is described in more detail in the third part of this section.)

Although there is no data from the Downtown Plan analysis to indicate how well C-3 District job growth matches the needs of San Francisco's unemployed and new labor force members, inferences can be made from the EIR findings. Even without a labor pool analysis, it is probably true that increased economic activity in San Francisco increases the probability that San Francisco residents will find jobs in San Francisco.

This would be true to a lesser extent for residents of other Bay Area communities. Other development and economic activity would provide a larger proportion of the potential employment opportunities for the unemployed and new labor force members in other parts of the region. [It should be noted that the shifts of economic activity to other parts of the region under the lower C-3 District growth scenarios (see Section B.2.2) could result in relatively more employment opportunities for residents of other Bay Area communities (in addition to the opportunities provided by other local growth and turnover), compared to the higher C-3 District growth scenarios.]

Not all office jobs require years of education and/or experience. Using lower wages as a proxy for entry-level positions which do not require extensive skills, training, or experience, the EIR analysis indicates that 24 percent of total C-3 District employment growth between 1984 and 2000 under the Downtown Plan would be in the lower wage/entry-level category. Most of the growth would be in the office sector, with the retail and hotel sectors providing entry-level jobs in sales and service occupations. (See Table IV.C.18 and text pp. IV.C.50 - IV.C.53 of the EIR.)

Analysis of the Alternatives to the proposed Downtown Plan indicates that the higher growth Alternatives would offer somewhat more entry-level opportunities in clerical and technical office occupations than would the Plan and the other lower growth Alternatives. The differences among the Plan and Alternatives would be relatively small for entry-level sales and service workers. Alternative 4, due to the slower decline of industrial, warehouse and repair activities, shows continuing C-3 District opportunities in lower- paying crafts and operatives occupations in these industries. (It should be noted, however, that under the Plan and other Alternatives, some of these jobs would be located elsewhere in the City, so the difference among the proposals, from a citywide perspective, is not as great as indicated by the C-3 District forecasts.)

Job Turnover as a Source of Job Opportunities

A comment correctly implies that most job openings in a developed area such as the C-3 District are the result of turnover, as opposed to job growth. This source of job openings is largely independent of C-3 District planning policies. It is not clear where the statistic referred to in the comment (that 90 percent of all job opportunities are the result of turnover) comes from, or whether or not it refers specifically to San Francisco. The Downtown Plan EIR does present some data related to this issue, although the statistic in the comment could not be separately identified or properly derived from the data available.

The residence patterns and housing section of the EIR includes an extensive discussion of the dynamics of employment growth and changes in the downtown workforce and the extent to which these can be measured with available data. One of the implications of the analysis of citywide data and C-3 District survey results related to this issue is that perhaps about 10 percent of those newly employed in the C-3 District each year are newly employed because of net job growth. (See particularly pp. IV.D.55-IV.D.56 and especially notes 37 and 39.) The remaining 90 percent of those newly employed downtown are newly employed because of both the turnover of employees in existing jobs (job openings in existing businesses because employees quit, are fired, or retire) and the turnover of jobs in the C-3 District, separate from the net growth of employment (new jobs in new businesses and existing businesses which expand or move into the downtown that are offset by a loss of previously existing jobs because businesses cut back, move out of the downtown, or cease operations).

The percentages above represent individuals newly employed in the C-3 District who had not previously worked there. They do not necessarily represent job opportunities or openings in the C-3 District each year. The differences arises in cases where businesses move into downtown San Francisco and bring existing employees with them and in situations where existing C-3 District employers transfer jobs and/or employees into a San Francisco branch from other locations outside the C-3 District. To the extent that these types of changes occur, workers who had previously not worked in the C-3 District become newly employed downtown, but their jobs do not provide employment opportunities for other labor force members. Thus, the number of individuals newly employed in the C-3 District would be larger than the number of C-3 District job openings.

In addition, there is a second reason why the data describing the newly employed workforce (who had not previously worked in the C-3 District) do not necessarily describe all job opportunities. The group of those newly employed in the C-3 District each year (to which the above data refer) does not include individuals who change jobs within the C-3 District. These changes do occur and could be counted as job openings. This would add to the number of actual job openings covered by the estimates of those newly employed in the C-3 District.

Although the data and survey information for the C-3 District do not provide an estimate of the number of job openings every year or of the percent of those openings due to turnover, it is probable that, because the number of existing jobs is large (280,860 in 1984) relative to the net job growth in any one year [forecast under the Downtown Plan to average 5,700 per year from 1984 to 2000 (91,260/16 = 5,700)], employee turnover and job turnover without net growth of employment represent most of the job opportunities available in the C-3 District.

Because of the importance of turnover in providing job openings, it is appropriate to consider how those openings and the unemployed or underemployed might be better matched. Such actions or programs would not be mitigation measures related to the Downtown Plan, since turnover would occur anyway. It may be reasonable, however, to develop a program whereby employers notified an appropriate agency of such openings in advance, so that unemployed City residents and others finishing school or other training could be prepared to fill these positions.

B.5.2 Labor Pool Analysis

A labor pool analysis for San Francisco was beyond the scope of work and budget limitations for this C-3 District EIR and is a socio-economic issue and is therefore not covered by CEQA. To include detailed surveys of San Francisco's labor pool would be a massive and very costly undertaking. Moreover, this type of study is more properly done in the context of citywide employment analysis rather than in a study focussing on the C-3 District. A regional labor pool analysis would be more appropriate as part of a regional employment study in which regional needs could be compared to regional job opportunities.

A labor pool analysis of any area is complicated by the consideration of changes over time. The analysis should not focus solely on the needs of those currently unemployed or about to enter the labor force. The future needs of those same residents, as they complete school, form households, start new families, should be considered. The needs of future residents should also be considered, particularly with regard to how they are likely to differ from those of labor pool members they replace.

The absence of a labor pool analysis does not preclude the suggestion of mitigation measures designed to enhance the employment benefits of C-3 District growth to San Francisco residents. Programs linking employers to educational institutions and vocational and technical training agencies serving San Francisco residents could be expanded. Training programs could be designed to better match the needs of businesses expected to have the most future job opportunities as shown in the C-3 District analysis.

B.5.3 Measuring Employment Benefits to Residents

The comments use data and ratios presented in the Draft EIR to raise issues related to the degree to which San Francisco residents would benefit from C-3 District employment growth. The EIR residence patterns and housing section expands upon the Consultant's Report discussion of these issues to clarify what the data represent. The key factors in this discussion are:

- 1970 and 1980 citywide data showing the percentages of 1) employed residents working in the City and 2) City jobs held by residents,

- ratios of the 1970-1980 change in employed residents working in San Francisco to the change in San Francisco jobs, and

- the same percentages and ratios described above, but derived from the 1981-2000 forecasts for the C-3 District.

Summaries in Section IV.D. of the EIR of both the 1970 to 1980 citywide data and the 1981-2000 C-3 District forecasts describe the derivation of the various percentages and ratios. (See pp. IV.D.47 - IV.D.54 and pp.

IV.D.72 - IV.D.76.) These pages, tables, and associated footnotes should clarify the various ways in which employment and employed residents data can be used.

An important point related to these comments is that the ratios (11 percent for the total City between 1970 and 1980 and 33 percent for the C-3 District between 1981 and 2000 under the Downtown Plan) do not describe the share of new jobs or of any particular jobs going to City residents. The percentages represent simply the mathematical ratio of the net changes for two different variables (net increase in employed residents compared to net increase in jobs). It is not possible from the available data to identify how many (or what share) of the new jobs go to City residents. It is possible to examine the number of City residents working in the City or in the C-3 District compared to total employment in either area at a certain time. This measure--percentage of jobs held by residents--declined from 57.4 percent in 1970 to 50.7 percent in 1980 for the total City. Under the Downtown Plan 1981-2000 forecasts, the percentage declines from 56.8 percent to 50.2 percent for C-3 District workers living in the City. Over this time period, the number of C-3 District jobs held by City residents would increase; the percentage shows decline because there would be more C-3 District job growth than labor force/population growth in the City, as well as large growth of the labor force/population outside of San Francisco, as in the past.

The 30 (or 33) percent cited in the comment (the net increase in employed San Franciscans compared to the net increase in C-3 District jobs, 1981-2000) is a result of the Downtown Plan employment and residence patterns analysis and forecasts. It is not an assumption, as implied by the comment. It is also not directly comparable to the ratio of 11 percent for the total City from 1970 to 1980. If historic data were available for the C-3 District, the ratio would probably be greater than 11 percent. This is because a relatively large share of total City employment growth occurred in the C-3 District over this period (as evidenced by the distribution of development activity throughout the City), and the net increase in employed residents working in the C-3 District was probably an even higher proportion because of the high propensity of C-3 District workers to live in San Francisco. (In 1981, 57 percent of all C-3 District employees lived in San Francisco).

Assumptions regarding the future housing and labor force context in San Francisco relative to the rest of the region, in conjunction with a continuing strong propensity for persons to live and work in San Francisco, result in the ratio (33 percent) shown in Table IV.D.19, p. IV.D.72 of the Draft EIR. The additional City housing expected to be developed is among the many factors considered in the forecasts of City residents holding downtown jobs. The forecasts assume a larger net addition of housing in the City than occurred in the past over a comparable time period. It is also expected that a larger share of new housing will be built in proximity to the downtown area and that many C-3 District workers will have the preferences and resources for the types of new units built. Further, it is expected that there will be an increase in the number of employed persons occupying the existing stock of housing. The propensity for these persons to work in the C-3 District will remain high. (See Section D.2 of these responses for more discussion of the residence patterns forecast methodology and assumptions.)

In addition to the percentages cited in the comments, the same forecasts can be viewed differently by comparing the forecast increases in City residents employed in the C-3 District to the total workforce living in San Francisco (instead of to total C-3 District jobs), as in the EIR (see pp. IV.D.71-IV.D.75). These comparisons indicate that, over time, businesses in the C-3 District will employ a larger number of San Francisco residents (about 35,000 more residents) and a larger percentage of the City's total workforce (an increase of from 44.5 percent in 1981 to 47.5 percent in 2000). This comparison (percentage of City workforce rather than percentage of C-3 District jobs) provides a better measure of the extent to which residents benefit from downtown employment (see particularly p. IV.D.75).

B.5.4 Comparison of Alternatives

In comments submitted on the Downtown EIR Consultant's Report, the SFRG Alternative (Alternative 4) is presented as creating the most jobs for San Francisco residents while retaining the most blue collar jobs in the C-3 District. Table VII.D.2 in the EIR (p. VII.D.6) shows the forecasts of the total number of C-3 District workers expected to be living in San Francisco in the year 2000 for the Plan and all Alternatives. The number of residents with C-3 District jobs would be greatest under Alternative 1 (193,100); the number of residents with C-3 district jobs would be smallest under the Downtown Plan (189,000). Under Alternative 4, 190,200 City residents would work in the C-3 District.

Comparing residents who work in the C-3 District with all City residents who work is the most direct means of assessing the relative benefits of C-3 District jobs for San Franciscans. The percentage of employed residents working in the C-3 District in 2000 does not vary much among the Plan and Alternatives, ranging from 48.6 percent under Alternative 1 to 47.2 percent under Alternative 4. (See Table VII.D.2.) The percentage would increase between 1984 and 2000 under the Plan and Alternatives. The range reflects differences in both the amount and type of C-3 District job growth and the amount of housing built in the City. Compared to the Plan and other Alternatives, C-3 District jobs under Alternative 4 would represent a relatively smaller proportion of the employment options for City residents.

Comparing City residents who work in the C-3 District to all C-3 District workers is a different perspective on the relationship between C-3 District jobs and City residents. The percentage of C-3 District jobs held by San Franciscans would be highest (51.1 percent) under Alternative 4 and lowest (49.2 percent) under Alternative 1. Under lower growth scenarios such as Alternative 4, San Francisco residents would be a greater proportion of total workers than under higher growth scenarios. The number of San Francisco residents working in the C-3 District is the same in both this comparison to all C-3 District workers and the above comparison to all employed residents.

Regarding Alternative 4 (the SFRG Alternative), there are several conclusions to be drawn from analysis of the forecast results. In terms of absolute numbers, Alternative 4 would not provide the most C-3 District jobs for San Francisco residents. The number of residents working in the C-3 District, relative to the number of residents working elsewhere, would be lowest in this Alternative. Among all C-3 District workers, however, there would be relatively more San Franciscans in Alternative 4, compared to the Plan and the other Alternatives.

Finally, the forecasts for Alternative 4 do show less of a decline of C-3 District industrial and repair (i.e. blue collar) employment by 2000 than any of the other forecasts. (See Table VII.C.2, p. VII.C.4.) This is largely due to the housing requirement included in Alternative 4 which would have the effect of reducing the rate of conversions of industrial and warehouse space to office use. Some decline is still forecast to continue in this sector, as companies go out of business or move from the C-3 District to another location closer to suppliers and/or customers. These trends regarding blue-collar industrial jobs in central-city locations are not peculiar to San Francisco; there are economic and business reasons for these trends which are separate from San Francisco's office development pressures. (See Franklin James, "Industrial Decentralization and the Function of the Central City," in Jobs in Cities: Patterns and Dynamics of Location Change, Franklin James and Raymond Struyk, eds., Mimeo: The Urban Institute, available for review in file EE81.3 at the Department of City Planning offices.)

B.5.5 Issues Related to Employment Mitigation

The comments suggest some mitigation measures related to employment opportunities and matching the needs of City residents with the demand for labor in the C-3 District. The comments also request more detailed discussion of the mitigation measures that are mentioned in the Draft EIR. Generally, as discussed in the preceding parts of this response, employment-related mitigation measures could be equally applicable under any set of C-3 District policies because the same general problems of employment for unemployed and underemployed City residents will exist, and turnover will be the source of most job openings, regardless of C-3 District policies. Nevertheless, there are some relevant issues raised by the mitigation suggestions.

The comments suggest that the base FAR be reduced and that FAR bonuses be awarded for the establishment of job training programs or for commitment to "First Source" and local hiring plans. Bonuses of extra floor area are not being proposed for any amenities as a matter of policy. Relevant amenities are included as requirements of the Downtown Plan. Regarding this particular proposal, job training and hiring policies apply to businesses/tenants, while the FAR bonus applies to developers. Therefore, there is no direct link between the incentive offered (the FAR bonuses) and the desired action (job training and hiring).

The City Planning Commission has been requiring, as a condition of approval for individual buildings, that project sponsors notify the Mayor's Office of Housing and Economic Development and the Private Industry Council about six months before completion of building construction, in order for these agencies to connect prospective employees with firms that maybe expanding or entirely new to the City.

There are a few final points related to other mitigation proposals. Expansion of joint public-private efforts related to job training could have beneficial effects for the City's labor force. The information available in the EIR forecasts identifying the business activities in which substantial growth is expected could be used to target programs to specific industries. More detailed discussion of job training alternatives is more appropriately included in a study focussing on labor force characteristics, employer needs, and the capabilities of the different segments of the training system. Finally, it should also be noted that employer participation in job training programs and hiring requirements adds to the costs of doing business and could affect the rate of growth in the C-3 District.

B.6 OPEN SPACE

Recreation/exercise facilities located in building interiors do not raise physical-environmental issues and were focused out of the EIR. In addition, to require exercise facilities is outside of the police power of the planning department since it does not constitute a land use, i.e., zoning issue. Open space requirements could be modified to allow the provision of recreation and/or exercise facilities. However, this could result in the availability of less public open space as these types of facilities would probably be available to employees and/or paying members only, and would not be available to the general public. This would negate the concept of publicly-accessible open space.

The Proposition J Fund (ad valorem tax) generates revenue for the community at large independent of the areas the money is derived from. An increase in development downtown would increase use of downtown open space. The Planning Code presently requires residential development to provide open space for each residential unit. In a similar mannear commercial development could be required to provide open space in an amount directly proportional to the building size in order to mitigate impacts on downtown open space.

Both the EIR and Downtown Plan acknowledge that sidewalks are pedestrian open space areas. Wind and Shadow impacts on pedestrian areas including sidewalks are discussed on pages IV.H.34-IV.H.43 of the EIR. Mitigation measures proposed for sidewalks and other open space which would reduce wind impacts and increase solar access are on pages V.H.4-V.H.5 of the EIR. (See Response H.3 also)

There is a difference between designated open space or parkland and undeveloped or agricultural lands which are planned and zoned for more intense development. Designated open space has been or is planned to be acquired as such, while undeveloped areas not designated as open space are vulnerable to development pressure.

The San Francisco Department of City Planning does not intend that open space in the Bay Area be used for the housing needs of San Francisco employees. However, planning and zoning outside of San Francisco are not within San Francisco's jurisdiction (see Response N.3 for a discussion of regional planning responsibilities). The power to adopt Master Plans and land use controls within other cities and counties is held by each local government.

To mitigate pressures on open space San Francisco has recommended that ABAG endorse "Housing and Open Space in the Bay Area," a report by People for Open Space published in 1983, which contains five strategies to use land more effectively. These strategies would result in sufficient land for housing in the Bay Area for the next 20 years without committing more land to development.

It should also be noted that pressure on open space would not be caused only by the almost 100,000 new San Francisco employees projected for the year 2000. The Bay Area would add about 990,000 jobs according to ABAG (Projections 83; issued by the Association of Bay Area Governments in July 1983), resulting in the decline of San Francisco's share of regional employment from 22% to 19%.

In response to comments about impacts that the proposed park designation and the proposed height limit South of the Transbay Transit Terminal would have on Assessor's Block 3737, the following mitigation measure should be added as the last measure on page V.H.5 of the EIR:

> "The Downtown Plan and implementing actions could be modified to allow building development on a portion of Assessor's Block 3737. The height and bulk limit in the northern third of the block could be changed from 80-X to 200-X or 400-X, and in the remaining portion of the block north of the freeway from 80-X to 200-S. This would permit heights similar to those of surrounding properties so that taller, less bulky buildings could be developed than could be developed with an 80 foot height limit. The allowable density for the block could all be utilized in the northern portion of the block, which would allow for retention of wholesale manufacturing as well as potentially accommodating open space."

C. TRANSFER OF DEVELOPMENT RIGHTS AND ARCHITECTURAL RESOURCES

C.1 ECONOMIC ANALYSIS OF TRANSFER OF DEVELOPMENT RIGHTS

One comment requests detailed economic analysis of the transferable development rights (TDR) system proposed in the Downtown Plan. The Downtown EIR Consultant's Report included a detailed economic analysis of the use of TDR as an incentive to preserve architectural resources. The analysis used prototypical existing buildings in different subareas of the C-3 District to demonstrate under what conditions (permitted FAR, FAR of existing building, space demand) a property owner desiring to maximize land value would choose to sell TDRs and preserve the existing building rather than demolish the building and redevelop the site. The conclusions of this analysis were applied in the land use and real estate development impact assessment of the various TDR systems proposed in the Alternatives that were the subject of the Consultant's Report. (See Appendix G, Land Use and Real Estate Development Analysis, pp. G.10-G.25 and Section V.B, Land Use and Real Estate Development Impact, pp. V.B.51-V.B.57, all in the Consultant's Report and incorporated by reference in the Downtown Plan EIR.)

The TDR system proposed in the Downtown Plan is discussed in detail in the land use and real estate development sections of the Downtown Plan EIR: Section IV.B Impact, Section V.B Mitigation, Section VII.B Alternatives and Appendix G. The conclusions regarding how the system would work, the long-term balance between the demand and supply of TDRs, how effective the system would be in preserving rated buildings, and what changes to the proposed system would improve its effectiveness are based on the economic analysis presented in the Consultant's Report and on the aggregate analysis of TDR demand and supply throughout the C-3 District done specifically for the Downtown Plan.

The TDR system is not treated solely as a mitigation measure in the Downtown Plan EIR, as stated in the comment. The TDR system is one of the principal proposed Plan policies that would determine the availability of sites for development, the location and size of new development, and the number of architectural resources that would be preserved. In Section IV.B, Land Use and Real Estate Development Impact, the TDR system is discussed at length in terms of its effects on long-term development potential in the C-3 District and on the preservation of architectural resources (see pp. IV.B.63-IV.B.74).

The comment is also mistaken in stating that TDRs were only analyzed from the perspective of the site from which they would be transferred (the supply side). This is not the case. Estimating and analyzing potential levels of demand for TDRs was a critical element of the real estate analysis of the Downtown Plan. Appendix G, pp.G.2-G.10 describes the process undertaken to estimate the potential supply of space in the C-3 District under the policies of the proposed Plan. The TDR system was an important factor in assessing the likelihood that development would occur to the maximum potential allowed by height, bulk and other design controls of the Plan. In turn, this analysis was part of the input to determining the potential locations and sizes of buildings that might be developed during the forecast period (to the year 2000). Thus, an important product of the analysis of the TDR system was identifying the vicinity of receiving sites, providing the ability to evaluate impacts of projects that would use TDRs. Other sections of the Draft EIR, such as Transportation and Circulation (IV.E) and Urban Design (IV.H.), describe these impacts.

Appendix G (pp. G.8-G.10) discusses how aggregate TDR demand and supply were calculated and how the resultant estimates were used to analyze the effectiveness of the system as a preservation tool. Extensive analyses were conducted using data for a range of development scenarios. The conclusions of the analyses using this data are presented in the text. (See Section IV.B, pp. IV.B.67-IV.B.73.)

Alternatives to the TDR system proposed in the Downtown Plan are analyzed in depth in the Consultant's Report, in terms of both their effect on development potential and their effectiveness as part of a downtown preservation strategy. Moreover, in the land use and real estate development mitigation section, Section V.B of the EIR, changes to the proposed system are discussed that would affect the functioning of the TDR program.

C.1.1 Conclusions of Economic Analysis of Transferable Development Rights Policies

Comments made in public hearings on the Draft EIR and in a June 1, 1984 letter from the Foundation for San Francisco's Architectural Heritage (Heritage) draw from the EIR analysis of transferable development rights and real estate development economics to present Heritage's conclusions regarding the preservation and TDR policies of the proposed Downtown Plan. The following points clarify the EIR assumptions and economic analysis as used and/or cited by Heritage.

The real estate development forecasts for the Downtown Plan indicate a slowing in the rate of new construction in the C-3 District and, thus, in the rate of demolition of existing buildings to allow for that construction. A lower overall rate of construction could mean less demolition of architecturally significant buildings, at least for some time in the future. This pattern is indicated by the information presented in Table IV.H.3 (p. IV.H.26). Between 1984 and 1990, 50 Heritage-rated buildings would be lost due to new development (an average of about eight per year, similar to the rate since about 1975). Five of the buildings are rated in the Downtown Plan. Between 1990 and 2000, another 39 Heritage-rated buildings would be vulnerable to demolition (an average of about four per year, about half of the earlier rate). Seven of these buildings are rated in the Downtown Plan. Because of the prohibition on demolition of significant buildings (rated Category I and II in the Downtown Plan), there could be some shift in the threat of demolition from the highest quality buildings to buildings determined to be of somewhat less significance (those rated Category III and IV in the Downtown Plan and those Heritage-rated buildings that are not rated in the Downtown Plan). Contributory buildings in the prime development areas north of Market Street are likely to be under the most pressure for demolition and redevelopment.

The comment notes that of the 1,389 buildings rated A, B or C by Heritage in the existing C-3 District, the Downtown Plan extends protection to 485 buildings. (Although 485 buildings were protected under the Plan at the time that the comments were received, the EIR analysis is based on the 502 buildings in the August 1983 version of the Plan. The difference of 17 buildings does not affect the conclusions in the EIR or this response.) These 485 buildings protected by the Plan include all of the buildings rated A or of "highest significance", all but 10 rated B or of "major significance", and those C-rated buildings that are in the proposed conservation districts. The Downtown Plan established an inventory of important buildings using the same historical and architectural criteria used by Heritage. From this inventory, buildings that rated high in terms of historical significance alone were not extended protection. In addition, the Plan does not propose retention of Heritage C-rated buildings located outside of conservation districts. Thus, the bulk of the buildings not protected by the Plan are C-rated, located outside the revised C-3 District boundaries or located outside of conservation districts. These C-rated buildings are ranked lower in terms of their architectural significance, even if their historical significance is high.

The loss of contributory buildings (Heritage C-rated buildings not rated by the Downtown Plan and those buildings rated Category III and IV in the Plan) could affect the character and quality of the environment of the downtown area. The demolition of contributory buildings outside of conservation districts would have less impact on the character of San Francisco than would the demolition of more significant buildings, or contributory buildings located in conservation districts. New construction on sites located in conservation districts would have to conform to design guidelines proposed to maintain the character of the district. Some of the historic significance and qualities of age and texture would be lost, however, with demolition and new development in these areas.

In general, the comparisons of TDR supply and demand indicate that overall demand alone is unlikely to create strong incentives for preserving contributory buildings, which are not required by the Downtown Plan to be retained (those rated Category III and IV in the Downtown Plan and Heritage-rated buildings not rated in the Plan). Therefore, as mentioned in the comment, the threat to contributory buildings would remain even if the Plan is enacted. It is not true, as mentioned in the comment, that the threat to significant buildings would remain, assuming that the Plan's prohibition on demolition were enforced. As noted above, there could be some shift in the threat of demolition from significant to contributory buildings.

Some contributory buildings would be preserved and others would be demolished or altered. The individual characteristics of each building and the objectives of each building owner will determine whether or not a building is preserved. Important factors are the size of the existing structure relative to the amount of new development allowed on the site, the location of the building, the size of the site, the efficiency of the existing structure, and the probability of agglomeration with adjacent parcels. In some cases, a contributory building would be preserved, not because of the TDR system applicable to those rated Category III and IV in the Downtown Plan, but because demolition and new development are financially infeasible. In other cases, the owners of contributory buildings would have strong economic incentives to demolish the building and add the parcel to a larger development site or build a smaller infill structure, more marketable than the existing building.

The comment suggests that implementation measures in the Plan are not sufficient to enforce objectives of the conservation districts. The Downtown Plan proposes five conservation districts. One more district in the Pine-Sansome area, suggested in the DEIR (p.V.H.3), was added in the proposed amendments to the Plan (Downtown Plan Proposed Amendments, June 1984, pp. 10 & 12) (see Section C.2.1 below). In these districts, the objective is to preserve concentrations of buildings that together create a unique architectural, aesthetic, environmental, and cultural character which contributes to the attractiveness of the City.

Preservation on an area basis rather than on the basis of individual structures alone is necessary to limit the needless demolition of special buildings and their replacement by buildings which conflict with the character and scale of these districts, and to limit new construction or alterations which conflict with the character and scale of the area. These districts require the retention of buildings of somewhat lesser quality to create a setting that reinforces and complements the qualities of the more significant structures and also requires that the design and scale of new structures and alterations of existing structures maintain the character of the district. To do this, in addition to the restrictions on Category I, II, III or IV buildings, the Plan prescribes height and bulk restrictions that could discourage the replacement of some Category IV buildings and prescribes design guidelines to ensure that alterations to and replacement of Category IV buildings are consistent in scale and design with the district in general and with the architectural character of the surrounding buildings, especially, with respect to building mass, scale, materials, and detailing and ornamentation prevailing in the conservation district. (Downtown Plan, November 1983, pp. 74-77; Downtown Plan Proposed Amendments, June 1984, pp. 9-12.)

In the Downtown Plan as analyzed in the EIR, TDRs from buildings throughout the C-3 District could be transferred to projects in the Special Development District [C-3-O (SD)]. TDRs from the outlying areas (C-3-S and C-3-G), where new development is less valuable than in the prime development areas, would be less expensive substitutes for TDRs from buildings in the prime development areas (C-3-O and C-3-R). Therefore, because of the timing of development pressures and the large supply of TDRs in the outlying areas, some contributory buildings (rated Category III or IV in the Downtown Plan) in the prime areas would be demolished rather than preserved. This would depend on many factors, as mentioned above. At the same time, some of the owners of contributory buildings on sites in the C-3-G and C-3-S areas that would not have been feasible new development sites until a long time into the future would receive an earlier return on their property, by selling TDRs in the Special Development District, than they otherwise would have.

The comment requests clarification of the statement: "Thus, at any particular time, the demand for and supply of TDRs would be in 'balance'." The meaning of this statement is derived from the previous sentences in the second complete paragraph on p. IV.B.65 of the EIR text. The paragraph addresses the dynamics of the real estate market over time and describes how the demand for TDRs would develop and how the supply of TDRs available for sale at any particular time would respond to that demand through the prices paid for TDRs. As described in the previous sentence in the text section, "higher prices would induce more supply; large supply relative to demand could lower prices", thereby reducing the supply available for sale at that time (and at that price). The comment is correct in that this sentence does not refer to conclusions about the overall, long term "balance" between the demand for and supply of TDRs. The discussion of how the overall demand and supply are likely to compare is introduced in the next paragraph on p. IV.B.65. The conclusions are presented on pp. IV.B.67-IV.B.68.

A comment requests discussion of the effects on architectural resources in areas adjacent to the C-3 District as a result of the spillover of new development pressures from the C-3 District. The EIR analysis of spillover effects in adjacent areas is at a general level, discussing the extent and type of real estate conditions and land use changes that could be expected. Without protection policies in these areas for architectural resources, or other policies affecting conversions and new development, existing resources would be threatened due to pressures for increased office development near the C-3 District. On the other hand, some spillover effects may be of benefit for older buildings. It is likely that vacant or underutilized and deteriorated structures could be rehabilitated to accommodate the spillover demand for space. The extent of this activity would also depend on policies in these areas. Area plans are being prepared for the areas surrounding the C-3 District as part of the City's review of all commercial and industrial districts. These planning efforts include consideration of preserving historic/architectural resources. For example, the recent (June, 1984) proposal for the North of Market Residential Special Use District includes a requirement for conditional use authorization to build structures over 40 feet tall, with a policy of protection of historically/architecturally significant buildings being one of the features to be considered in the conditional use process.

A comment compares the estimated percentages of TDR supply from significant (Categories I and II) and contributory (Categories III and IV, including a small amount of TDRs from non-rated buildings in conservation districts) buildings as presented in the EIR (pp. IV.B.65-IV.B.66) to the percentages of buildings in each category, as presented in the Downtown Plan. (The comment also describes the distribution of Heritage-rated buildings. This is irrelevant to the comment's conclusion, since the Heritage-rated buildings that are not included in the Downtown Plan designations do not contribute to TDR supply.)

The comment notes that about 60-65 percent of the TDR supply would come from 55 percent of the rated buildings (those rated significant, Category I and II), while about 30-35 percent of the TDR supply would come from 45 percent of the buildings (those rated contributory, Category III and IV). The comment concludes that, because a disproportionate share of the TDRs are available only to significant buildings (which must be retained, in any case), then "a large percentage of contributory buildings would be demolished rather than transferring unused development rights." This conclusion cannot be drawn from the analysis presented in the comment.

For one thing, the percentage distributions (ignoring the small amount of open space TDRs)--60-65%/30-35% vs. 55%/45% are not that different. The estimates of TDR supply were prepared on the basis of the lot-by-lot information in the C-3 District Land Use Inventory, not on the basis of analysis of each building (see p. G.8 in the EIR). Given the approximations involved, the percentage distributions could be even closer than shown here.

The TDR analysis presented in the EIR on pp. IV.B.63-IV.B.73 presents the appropriate conclusions regarding the likelihood (over the longer term) that contributory buildings would be demolished. Those conclusions are derived from much more detailed analysis than that involving percentages as expressed in the comment. Analysis was done from two perspectives. One was the perspective of an individual building owner and how the availability of TDRs could affect the incentives for demolition and redevelopment or for preservation through the use of TDRs. The other perspective was to consider the overall supply of and demand for TDRs and how that overall "balance" would affect the likelihood that buildings would be preserved (or demolished). (Also see discussion in Section C.1.2 of this response regarding the methodology and assumptions behind this analysis.)

The amount of TDR available for any one building depends primarily on both the size of the building and the base FAR in the zoning district. The relationship between the amount of TDR available and the incentive for demolition or preservation depends on real estate market factors for that particular location (affecting rents for existing and new space and amount of space demanded). Since the buildings in each group (significant and contributory) are not distributed evenly either by size, by zoning districts, or by locations within zoning districts which have different real estate market characteristics, there is no reason that the overall percentages of buildings should be similar to the percentages of TDRs. It is primarily for this reason that the type of overall comparison presented in the comment does not necessarily provide conclusions about the effectiveness of the TDR program in preserving buildings.

C.1.2 Methodology and Assumptions

Section 3 of the Heritage letter raises questions about the methodology and assumptions of the Draft EIR analysis related to the preservation of buildings and the economics of the TDR system. The following discussion clarifies the treatment of preservation policy in the EIR analyses and responds to these comments.

Two Subject Areas with Different Purposes and Approaches

The preservation policies of the Downtown Plan are discussed under two subject headings in the EIR: in the Land Use and Real Estate Development sections IV.B and Appendix G, and in the Architectural/Historic Resources and Urban Design sections IV.H and Appendix E. The purposes of these two subject areas of the EIR are different. The real estate analysis provides an overview of the effects of the policies on the real estate development process for both new development and the preservation of existing buildings. The architectural resources analysis focuses on the implications of C-3 District development patterns for the stock of resources. These different purposes require differences in approach. The key points of comparison are perspective (longer-term vs. shorter-term) and specificity (qualitative vs. quantitative assessment). The conclusions in each section are consistent, when viewed with an understanding of the differences.

The purpose of the analysis of the Plan's preservation policies in the land use and real estate development section was to examine how the TDR system would work and develop conclusions regarding its effectiveness as a preservation strategy and as a means of shifting the location of development. The analysis was approached from the perspective of the overall C-3 District real estate market, considering existing development and the long-term development potential of the various subareas of the C-3 District, as well as the demand for space and how it would change over time. The analysis went beyond the year 2000 to assess the probable longer-term effectiveness of the proposed TDR system.

Estimates of TDR supply, the characteristics of sites with TDRs, and forecasts of TDR demand were used in this analysis, in conjunction with generalized rules of real estate economics. The conclusions are expressed qualitatively, reflecting the longer-term overview approach and the uncertainties in predicting the ultimate outcome for individual sites.

The purpose of the architectural/historic resources analysis of the Plan's preservation policies was to measure the differences in policy, both over time and among the Plan and Alternatives, with regard to the number of resources in the C-3 District. Thus, the approach required analysis of locations and sites to provide quantitative conclusions.

The impact assessment in the architectural resources section is limited to the EIR's 1984 to 2000 forecast period. Some of the data is provided through projects already approved for construction in the C-3 District. Some of these projects, expected to be built and occupied between 1984 and 1990, would result in the demolition or substantial alteration of architectural resources. Other sites most likely to be developed before the year 2000 to provide an amount of space commensurate with demand were identified in the real estate analysis of the C-3 District policies. Sites were selected based on general real estate criteria such as the amount of existing development relative to the amount of potential new development, the potential for combining parcels to provide larger, more efficient sites for development, and the location. The distribution of architectural resources among these sites provided the basis for estimates of buildings threatened with demolition or substantial alteration during the balance of the forecast period (to the year 2000).

Although the estimates related to building preservation are more quantitative in this section than in the land use and real estate section, the difficulty of predicting individual circumstances for all C-3 District sites means that the more specific data is not necessarily more accurate. In fact, there is probably more uncertainty associated with these shorter-term estimates than with the more qualitative, overview assessments presented in the real estate section, where the analysis looks at the overall TDR situation, comparing TDR supply and demand in a general way, beyond the year 2000.

The Two Approaches Are Consistent

The two approaches are based on the same real estate analysis of the effects of Downtown Plan policies on development potential in the C-3 District, described in Appendices G and D. Therefore, the results presented in each section are consistent. Both approaches rely on generalized rules which cannot account for every case involving either new development or preservation. The forecasts presented in the architectural resources section cannot be interpreted as precise counts related to specific buildings. (See Tables IV.H.3 and IV.H.4 and associated text, pp. IV.H.25-IV.H.29; also see Tables VII.H.1 and VII.H.2 and associated text on p. VII.H.1 for comparison to the Alternatives.) The numbers are most realistic when interpreted on an order-of-magnitude basis and used to compare patterns overtime and among the Plan and Alternatives. The information presented in the real estate development section takes the analysis a step farther, providing order-of-magnitude estimates of the types of rated buildings most vulnerable to demolition over the longer-term, in spite of the TDR system proposed in the Plan. (See pp. IV.B.70-IV.B.73.)

One of the conclusions of the longer-term analysis of TDR supply and demand was that overall demand alone would probably not be strong enough relative to supply to create strong incentives for preserving contributory buildings. The TDR supply characteristics of contributory buildings were assessed to develop approximate groupings of buildings according to the strength or weakness of the TDR incentives. This was the basis for the longer-term assessment of the extent to which contributory buildings would be likely to be preserved.

The Heritage comment includes tables showing various estimates of building demolition based on information from the Draft EIR. One of these tables (Heritage table II.3) is an extrapolation from the discussion on pp.IV.B.71-IV.B.73 of the overall, longer-term likelihood of preserving contributory buildings (Category III and IV buildings) on the basis of the TDR system. Before discussion of the issues raised by this table and the associated comment, this response presents a revised version of the table. (This correction does not change the substance of the comment.)

A correct version of the table, using the same assumptions as in the Heritage letter, would be as follows:

- Buildings most likely to be retained: 40-50% of contributory buildings (.45 x 236)	106
- Buildings least likely to be retained: 10-15% of contributory buildings (.125 x 236)	30
- Remaining buildings (some would be demolished): 35-50% of contributory buildings (.425 x 236)	100

- assume 50% of remaining buildings would be demolished: 50

- Estimate of buildings that would be demolished: 80
  (least likely to be retained, plus 50% of remaining)

The corrections are made for the following reasons. First, the total number of contributory buildings is 236 (not 266) as shown in the proposed Downtown Plan, August, 1983. (There are 266 significant buildings designated in the Downtown Plan.) Second, the percentages presented in the text are deliberately shown as a range because of the uncertainty associated with this analysis. One method of converting these ranges to numerical estimates is to use the mid-point of the range, as shown in the revised table above. Another method is to use the ends of the ranges to calculate a numerical range. This was attempted in the Heritage comment. In this latter approach, however, the high end of one range cannot be added to the high end of the other range as in the Heritage table, or the result will be more than the base total (because the percents add to more than 100 percent). (For example, from Table II.3: 106 + 40 + 133 = 279. 279 is greater than 266, the base used in the Heritage table) Alternatively, the mid-point approach used above is not necessarily more precise. Both methods present the results of a generalized analysis; the uncertainty of the estimates is discussed in the accompanying text in the EIR, pp. IV.B.71-IV.B.73.

Returning to the substance of the comment, it is important to recall that the estimates above are based on the longer-term analysis which extends beyond the year 2000. This total estimate of the Plan-rated buildings likely to be demolished (80) is not inconsistent with the estimate of the Downtown Plan contributory buildings (Categories III and IV) demolished by 2000 as presented in Section IV.H (11 buildings from 1984 to 2000). Together, the longer-term and shorter-term estimates indicate that the number likely to be demolished by 2000 is less than the total that would eventually be demolished. To the extent that contributory buildings are on relatively small sites not readily agglomerated for a large development site, many would not be prime candidates for a major office project, at least for some time into the future. Much of the demand for space in the shorter-term would be satisfied in major office projects that did not threaten contributory buildings. This is reflected in the relatively low estimate for the first years of development under the Plan, before the year 2000.

In sum, the EIR does not underestimate the number of contributory buildings that could be demolished under the Downtown Plan. The real estate analysis of the proposed TDR system indicates, as noted in the Heritage letter, that not all contributory buildings would be preserved and that buildings in the prime development areas (C-3-R, C-3-O, and the Special Development District), as well as relatively isolated and/or large existing buildings, or inefficient and unmarketable structures would be the most likely to be demolished. The EIR estimates that over the longer term only about 40-50 percent of the contributory buildings have a high probability of being preserved, and some of these may be demolished. Of the rest, individual circumstances would determine the outcome, but a large share (in the area of 30 percent of all contributory buildings) could eventually be demolished. (80 is 34 percent of 236.) This information is presented on pp. IV.B.71-IV.B.73 of the EIR.

Some of these buildings could be similar to the examples cited by Heritage in Section 3 of the letter (City of Paris, Fitzhugh). (Note that the California Pacific Building also mentioned in the letter was not demolished but was retained and incorporated into the 101 Montgomery project.) Although existing buildings that are close to the base FAR (i.e., greater than 2/3 of the base and have few TDRs to sell), would be generally likely to be retained, there would be cases where circumstances could combine (prime development site, inefficient building, poor structural condition) to make demolition an attractive option, even though the net addition of income-producing space would be relatively small. Similarly, some small isolated sites could be subject to redevelopment; rated buildings on these sites, particularly in Subareas 1, 2 and 6, are accounted for in the range of estimates for the longer-term perspective on preservation. The same is true of contributory buildings in conservation districts, which are generally located in the prime development areas.

As noted in the Heritage letter, sites such as these would not be included in the "opportunity sites" identified for the Downtown Plan real estate analysis. (See Appendix G, pp. G.2-G.3 for more detail on the definition and selection of opportunity sites.) Therefore, these demolition situations are not accounted for in the estimates presented in the architectural resources impact section which reflect analysis of the most likely development sites, or opportunity sites, during the forecast period. Thus, there could be more than 11 contributory buildings demolished or substantially altered before the year 2000. However, these situations are accounted for in the longer-term analysis presented on pp. IV.B.71-IV.B.73 and reflected in the numbers above. This analysis was not limited to the opportunity sites; the characteristics of all sites with rated buildings were reviewed and categorized according to generalized rules of real estate economics related to the decision to demolish for new development. The many qualifications inherent in site-specific analysis, the fact that there will be cases that do not conform to the generalized rules, as well as the lack of appropriate data, support the more qualitative assessment and the use of a range to categorize buildings according to their likelihood of being retained.

C.2 ANALYSIS OF SUGGESTED CHANGES IN TDR AND PRESERVATION POLICIES

C.2.1 Measures Included in Downtown Plan or in Proposed Revisions to Plan

Several comments correctly use the EIR analysis to support proposed changes to the Plan to mitigate impacts on important buildings. Many of the mitigation measures suggested by Heritage and other commenters are already discussed in the EIR Mitigation section as being included in the Plan. Others have been added to the Plan as part of the Proposed Amendments to the Downtown Plan or in the ordinances proposed to implement the Plan (revisions to the City Planning Code). These additions to the Plan were made in part as a result of comments received on the Plan and the Draft EIR.

Comments suggested that further reductions in the base FAR in C-3-G and C-3-S Districts, and limitations on transfers from sites in those Districts to other sites out of their Districts would make preservation policies more effective. In addition, comments requested that height and/or bulk limits be revised to reduce maximum development allowed.

If the base FARs were reduced, the overall TDR supply would be less than calculated under the FARs proposed in the Plan. If other policies affecting the maximum development allowed on a site (e.g., height and bulk limits) were not changed, reduced FARs would enhance the demand for TDRs relative to the supply because the supply would be reduced. The total development potential would be somewhat less than analyzed for the Downtown Plan, although individual building projects would not necessarily be any smaller.

If height and bulk limits were reduced (reducing maximum development potential in the C-3 District), but base FARs remained as described in the EIR, the supply of TDRs would not be affected. However, the overall demand for TDRs would be less than that assumed in the EIR. Lower height and bulk limits would have some effect in limiting incentives to demolish smaller buildings. Over the long term (beyond 2000), however, the smallest buildings might be under more pressure because of the lower overall amounts of new development allowed.

The Proposed Amendments to the Downtown Plan (June, 1984) include all three of the changes suggested in comments: further reducing FAR in C-3-G from 8:1 to 6:1 and in C-3-S from 6:1 to 5:1; restricting transfer of TDRs in C-3-G and C-3-S Districts to other sites in their respective districts; limiting developers of C-3-O (SD) sites to TDRs from C-3-O, C-3-R or other C-3-O(SD) sites; and further reducing height and bulk limits in some parts of the C-3. FAR and height/bulk revisions are discussed in Section H.4.2 below. All three changes are discussed in Section Y.1 as part of a group of proposed amendments to the Plan and City Planning Code. The combination of all of these changes is expected to reduce maximum development potential (although it is not likely to reduce C-3 District employment growth forecast to the year 2000 by a substantial amount) and is expected to favorably change the long term supply/demand situation for TDRs, resulting in more incentive for preservation of Category III and IV buildings.

Comments suggest that additional conservation districts would help to preserve contributory (Categories III and IV) buildings. Mitigation Measure 13 in Section V.H. of the EIR suggests two such additional conservation districts, in the 300 block of Pine street and the 1000 block of Market Street. The Pine Street District has been added to the Plan in proposed revisions in response to these comments. (See Section Y.1 for additional discussion.) Because Measure 13 was in the list of measures not included in the Plan, the text of the EIR should be revised to include the Pine Street district in those measures made part of the Plan.

Measure 13, page V.H.3, in the section of mitigation measures not included in the Plan, should be revised to omit suggestion of a conservation district for the 300 block of Pine Street:

> "13. In order to preserve a contextually important group of buildings in the Market Street Loft/Theater District,/5/ establish a conservation district or redefine Category III to include buildings in this group."

A new measure 4a should be added on page V.H.1, as a measure proposed as part of the Plan:

> "4a. An additional conservation district would be established for the 300 block of Pine Street,/4/ to preserve contextually important buildings in that block."

In response to comments made on the Downtown Plan (similar comments were not received on the Draft EIR) the Department of City Planning has re-studied all of the buildings included in Categories I through IV in the August, 1983, Downtown Plan. Some of the buildings have been re-categorized as a result of this study. This activity implements Mitigation Measure 7 in the Draft EIR (p. V.H.2). Therefore, this measure should become Measure 6 and should be moved so as to be included under the subhead "Measures Proposed as Part of the Plan".

Another comment requested that the ordinances proposed by the Department in June, 1984, to implement the Downtown Plan be revised to discourage illegal demolition of significant (Category I and II) buildings. This revision has been made, together with a revision that would prohibit receipt of TDRs by sites that had had a Category III or IV building demolished. Therefore, Mitigation Measure 8 in the Draft EIR should become Measure 7 (following the re-numbered Measure 6 noted above) and it should be included under the subheading "Measures Proposed as Part of the Plan." Measure 6 will then become Measure 8 and will be the first item under "Measures Identified by This Report." The introductory paragraph under Measures Proposed as Part of the Plan (p. V.H.1) should begin "Measures 1 through 7 summarize..."

The June, 1984, proposed ordinances implementing the Downtown Plan include a provision amending Article 10 of the City Planning Code to permit landmark designation of certain types of building interiors if stated basic criteria are met. This carries out the second part of Mitigation Measure 12 (p. V.H.3 of the EIR). Therefore, a Measure 5a. should be added, under "Measures Proposed as Part of the Plan":

> "5a. Article 10 of the City Planning Code would be amended to provide authority for the designation of architecturally or historically significant interiors./2/

Measure 12 would end with "...to deny demolition or inappropriate alteration to landmarks./2/," and would remain under "Measures Identified by This Report."

Comments requested that, if a measure allowing for preservation of interiors were included in some form in the Plan, then economic feasibility should be taken into account as part of the consideration of individual buildings. This is a procedural issue rather than an environmental one. In any case, most building owners interested in demolition of interiors proposed for preservation would lose little time in informing the decision-maker of any estimated difficulties that might occur upon designation of their building's interior as a significant or landmark interior. The decision-maker would take this economic information into consideration in deliberations on the project before final action is taken.

C.2.2 Measures Not Included in the Plan

Several comments requested inclusion or discussion in the EIR of mitigation measures that have not been made a part of the Plan. One commenter is concerned that more TDRs are provided by the Downtown Plan policies than are necessary to offset the incentive for demolition and development. The comment is particularly focused on situations where a building only moderately below the base FAR would be unlikely to be demolished in order to build a new building, even without the TDR incentive to retain the existing building. An evaluation is requested of two possible Plan changes: (1) TDRs would be allowed only from rated buildings that are smaller than the size above which a TDR incentive is unnecessary and (2) TDRs would be allowed at a lesser ratio than 1-for-1 (e.g. on a 1-for-2 basis).

With regard to the first proposal, it must be understood that a number of factors affect the economic comparison of retention (and often rehabilitation) to demolition/new construction. Among the factors are:

- the relationship of the parcel to other nearby parcels available for development (e.g., a key parcel in an agglomeration for a development site has a high land value),
- the opportunity for views from a new building versus those from the existing,
- the structural quality of the building (including its seismic stability),
- the efficiency and appropriateness of the space for the market-preferred use (e.g. a large church nave is not likely to have a high value if retained for office space),
- the cost of rehabilitation and the ability to install improvements such as air conditioning and efficient elevators,
- the attractiveness and character of the existing building,
- the location of the building, as rent levels play an important role, as well as
- the size of the existing building relative to the base FAR and the maximum construction envelope (allowed by height, bulk, and other regulations).

Not only are there many factors, but these factors will change over time as development patterns and market demand change.

The size of the building is not necessarily the dominant factor. For the majority of rated buildings, the combined effect of all of the factors are likely to favor demolition and new construction more than would be expected if size were the only consideration. Perhaps even more important, these factors vary widely among buildings. Therefore, generalizations as to the TDR incentives required to retain buildings that are based only on size will fit only a minority of rated buildings.

It is possible hypothetically to assume that size is the only variable (within each C-3 District subarea) and to calculate the FAR at which there would be no value gained from demolition. The analysis of TDRs undertaken as part of the Consultant's Report (see Appendix G, p. G.22) provides a conceptual basis for such an approach. Calculations using the hypothetical values and costs assumed in Table G.9 show that a parcel in the C-3-O with an existing 6.4 FAR or greater (compared to the base 11 FAR--base of 10 plus one FAR for retail) would not gain value from demolition and new development. Similarly, a parcel in the C-3-R would not gain value from demolition unless the existing FAR was 3.1 or less (compared to a base 6 FAR).

These estimates offer some indication of the sizes at which buildings would be unlikely to be demolished by choice even in the absence of TDRs as an incentive to retain the buildings, assuming size was the only consideration. As noted above, however, other factors may increase the likelihood of demolition. Therefore, to offset these effects, it follows that the TDR incentives under the suggested cut-off point system should be expanded, implying a higher FAR for the cut-off point. Moreover, in order to offset the economic factors relating to the decision to demolish for a majority of rated buildings (rather than just a typical building), the cutoff point would be even higher. Finally, a 1-for-1 ratio would not be high enough to preserve some buildings. There are examples of buildings that have been demolished to provide sites for smaller buildings.

The proposal to allow TDRs on a less than 1-for-1 basis could be implemented by itself or in addition to a cut-off point as discussed above. In either case, the effect on the preservation incentives and the number of buildings retained would be dependent on the cut-off points and the ratio adopted. The incentives for retaining smaller buildings would be weakened the most by the policies suggested in the comment. The lower TDR ratio would result in the weakest incentives for retaining the smallest buildings.

In order to maintain the same incentive against demolition, the price received per TDR (per sq. ft. of building space that would be sold and transferred) would have to be higher under either or both of these systems than under the proposed Downtown Plan policies. For example, a two-FAR building on the hypothetical C-3-O parcel for which the calculations above (assuming the proposed changes) were made would have to receive about $300 per TDR to offset the incentive for demolition; under the proposed Downtown Plan policies, $90 per TDR would provide the same incentive. Similarly, a four-FAR building on such a parcel would also require about $300 per TDR to offset the demolition incentive; only $70 per TDR would provide the same incentives under the Downtown Plan. Developers could not afford to pay prices in the area of $300 per TDR under present and foreseeable future market conditions. Thus, the proposed changes would reduce the situations where TDRs provided an effective incentive for preservation and would result in more demolition.

Finally, with regard to both of these proposals, it should be understood that the 1-for-1 TDR policy proposed in the Plan allows the owners of rated buildings to be treated similarly to owners of other buildings without such a designation. They are allowed the same amount of development, though the increment above the existing amount is to be located on a more appropriate site. A TDR system allowing fewer square feet of TDRs than the unused FAR results in the owners of rated buildings being allowed less development than the owners of other buildings that are identical except that they have not received such a designation.

The overall supply of TDRs in the C-3 District under the policies of the Downtown Plan would be about ten million square feet. (This estimate could vary by as much as one million square feet depending on the technical definition adopted to measure TDRs.) The effects on the total TDR supply of the cut-off point system discussed above cannot be quantified with the aggregate data available. There are some general points to be made, however, about the overall effects of the suggested reductions.

Both a cut-off point and a change in the ratio at which TDRs were granted would result in a smaller overall TDR supply. The results would probably be less overall development in the C-3 District and more demolition of Category III and IV buildings than under the policies of the Plan. Category I and II buildings could not be demolished under the Plan, but the owners of these buildings would not have the same development rights from their property as owners of similar but unrated buildings, as noted above. Thus, these two proposals would cause more impacts to important buildings than would the TDR provisions in the Plan.

For these reasons, mitigation measures covering these two points have not been added to the EIR.

Heritage proposed that the City Planning Commission retain conditional use authority over demolition of Plan-designated contributory buildings. This measure was covered in the EIR in Mitigation Measure 10 which proposes to empower the City Planning Commission to grant demolition permits for contributory buildings as a conditional use, thereby allowing the Commission to require the preservation of these buildings in selected cases. This would increase the City Planning Commission's control over the Category III and IV rated buildings, and could encourage their preservation depending on the Commission's actions. The proposed procedure would add uncertainty regarding the development rights of a contributory building site because the Commission could disapprove requests to demolish. The decision about whether TDRs were available from a particular site would be based both on market factors such as the value to be gained from construction of a new building compared to the value of transferred development rights and on the likelihood of City Planning Commission approval or disapproval of a demolition request. Developers could be reluctant to invest time and money to secure rights to the property with less certainty about the extent to which development would be allowed or restricted. This uncertainty could jeopardize the acceptability of the TDR system and threaten the preservation policies of the Plan as a whole. In effect, such a conditional use authority would grant the Commission the power to convert Category III and IV buildings to Category I or II on a case-by-case basis without meeting the same standards and possibly without the same justification as has been provided for Category I and II buildings. For these reasons, Measure 10 was not proposed to be included in the Downtown Plan.

A comment recommends that Mitigation Measure 9 should not be a requirement in the Plan. Measure 9 suggests requiring implementation of National Register Standards for Alteration of Architectural Resources. These guidelines are subject to the Secretary of the Interior's review for each project. The Downtown Plan modeled its alteration standards upon the Secretary of the Interior's Guidelines for Rehabilitation but did not require alterations to comply with these guidelines. The design review of alterations to significant structures would apply similar standards to alterations, and would suggest that, wherever possible, the Secretary of the Interior's guidelines be followed. The Department of City Planning believes that the federal tax incentives for historic preservation would provide the impetus to follow the National Register Standards guidelines for major alterations and additions and thus agrees with the comment and has not included this measure in the Plan.

Another comment suggests that Mitigation Measure 17 should not be implemented until need is demonstrated. Mitigation Measure 17 suggests establishing a "Development Rights Bank" to create an initial market for TDRs, to solicit tax deductible donations of TDRs or to hold development rights to publicly owned architectural resources. This measure is included in the EIR list of measures "Identified by This Report," not as one of the measures included as part of the Plan, and is not being proposed for addition to the Plan at this time.

A mitigation measure proposed in a comment on the Draft EIR would prohibit demolition of all Heritage A-, B- or C-rated structures in Conservation Districts. This measure should be added as Measure 18 under "Measures Identified by This Report":

> "18. Prohibit demolition of all structures in conservation districts rated by Heritage as A, B or C in order to preserve as many important buildings as possible."

This measure would result in retention of as many as one-half or more of the buildings in some districts (rated buildings represent over 65% of all buildings in the C-3 District and they are somewhat more concentrated in some of the proposed conservation districts). The Department believes that it would be difficult to provide adequate legal justification for prohibiting demolition of this many buildings based on the C-ratings of many of them. Therefore this measure has not been included as part of the Plan.

C.2.3 Other Suggested Changes to Plan Related to TDR

Some comments were received requesting procedural or staff changes as mitigation measures for preservation impacts. Such changes in Department procedures or staffing would not directly mitigate otherwise significant physical environmental effects although they might, in some cases, speed processing of applications. These items have not been added to the mitigation section of the EIR but are discussed briefly below. (See also Section Z.1.)

One comment requested that an additional position be added to the Landmarks Preservation Advisory Board staff. Planning Department staff needs are assessed as part of the Department's annual budget activities and new positions are requested based on projected work load. If the provisions of the Downtown Plan are adopted by the Board of Supervisors, any changes in work programs caused by the Plan will no doubt be factored into the 1985-86 budget request, including any possible increase in the work of the Landmarks Board. The Mayor's Office and the Board of Supervisors review and approve the Department's budget requests and make the final determinations regarding new staff.

Other comments request that the Landmarks Board prepare a detailed economic analysis in cases where the Board recommends rehabilitation of a building. As an economic issue, it is not appropriate to include such a requirement as a mitigation measure; further, it is not clear that such a measure would mitigate otherwise significant impacts on historic buildings that could be caused by provisions of the Plan.

A comment suggests that the City should implement Mitigation Measure 14 (p. V.H.3) and also establish a standard form for conveyance of TDRs, approved by the City Attorney. The decision-makers will consider whether or not to include Measure 14 as part of the project; a standardized form of conveyance could also be required by the decision-makers or by the Department of City Planning if such a requirement were considered appropriate. Such a standard form might speed Department processing but would not mitigate significant physical environmental effects.

Another comment asks about the implications for preserving contributory buildings of policies in the C-3-G and C-3-S use districts which allow housing in excess of the base FAR up to the height and bulk limits on a site. Since a developer would have to purchase TDRs to build office space above the base FAR, the comment expresses concern that the demand for TDRs would be lower than it otherwise would be if housing were included under the FAR limits and that this would affect the TDR market and jeopardize more contributory buildings.

Policies allowing housing up to the height and bulk limits could affect the TDR market in situations where financial returns from the development of housing and of office space are relatively similar. In these situations, the cost of purchasing TDRs for the office use could add enough cost to make the housing development a more attractive investment, all other things being equal. The policy allowing housing above the base FAR is unlikely to affect development decisions in situations where the return for one use (office or housing) exceeds the return for the other use. In these situations, the additional cost of purchasing TDRs would not affect the feasibility of office space relative to the feasibility of building housing.

There could be situations in the C-3-G and C-3-S use districts where the policies allowing housing up to the height and bulk limits would increase the incentive to build housing and reduce the incentive to purchase TDRs to build office space. However, it is likely that in most situations there would be enough difference in financial return between office and housing uses that these policies would not affect development or the TDR market. Thus, the potential for such effects was not judged to be great enough to change the policies in the Downtown Plan (by limiting housing to the base FAR). Further, the City's Residence Element expresses the goal of encouraging housing development in and around the downtown area. The policies allowing housing up to the height and bulk limits are addressed to this goal in an effort to encourage housing without significantly affecting the achievement of other goals including the preservation of architectural resources.

C.3 REQUESTS FOR CORRECTIONS/ADDITIONS TO EIR TEXT

C.3.1 Discrepancy Between Architectural Resources Summary and Impact Sections

The Heritage letter noted inconsistencies in the estimates of demolition of architectural resources presented in the Draft EIR. The estimates in the Summary section of the EIR (Section I.H., p. I.H.1 of the EIR) are incorrect summaries of the text and the estimates are not appropriately identified. The Summary text indicates that "43 significant and contributory" buildings would be demolished or substantially altered between 1984 and 1990, and that 41 would be threatened between 1990 and 2000. "Significant and contributory" refers to the Downtown Plan Category I-IV buildings; the estimates of buildings (43 and 41), however, are of Heritage-rated buildings (Categories A, B, and C, a larger group than the Plan's categorized buildings). These are the estimates shown in Table IV.H.3. The numbers in the summary also only refer to buildings in Subarea 1. Table IV.H.3 in the Impact section shows 50 Heritage-rated buildings lost by 1990 and 39 Heritage-rated buildings threatened between 1990 and 2000 under the Downtown Plan, for the entire C-3 District. Smaller estimates of "significant and contributory" buildings are presented in the text, pp. IV.H.25 and IV.H.29: five buildings between 1984 and 1990 and eight buildings between 1990 and 2000. These estimates are not presented in the Draft EIR summary section.

In response to comments noting inconsistencies between the architectural resources summary and impact sections of the Draft EIR, the first two paragraphs of the summary section (p. I.H.1 in the Draft EIR) should be corrected to read as follows:

> "Architectural Resources
>
> "In 1984, there are 1,389 architectural resources in the C-3 District rated A, B, or C by the Foundation for San Francisco's Architectural Heritage (Heritage). About one quarter are in Subarea 1. Not all of these buildings are rated as either significant (Categories I and II) or contributory (Categories III and IV) in the proposed Downtown Plan. The Plan designates 266 significant buildings and 236 contributory buildings, for a total of 502 rated buildings.
>
> "During the period 1984 to 1990, approximately 50 of the architectural resources rated A, B, or C by Heritage would be lost due to demolition or substantial alteration, mostly as a result of projects under construction or already approved. This represents a rate of approximately eight resources per year, which is similar to the rate at which demolitions have been occurring since about 1975. Almost all of these buildings (85 percent) are in Subarea 1. The 50 resources include one Category I building, no Category II or III buildings, and four Category IV buildings (in total, five of the buildings rated in the Downtown Plan).
>
> "During the period 1990 to 2000, an additional 39 of the architectural resources rated by Heritage would be threatened. This represents a slowing in the rate of demolition to an average of about four buildings per year. The estimates also reflect a shift away from resources in Subarea 1. About 40 percent of the threatened resources would be located in Subarea 1. The estimate of 39 Heritage-rated resources includes no Category I buildings (required to be preserved under the Downtown Plan), no Category II buildings (required to be preserved with some alteration allowed), three Category III buildings, and four Category IV buildings (in total, seven of the buildings rated in the Downtown Plan)".

The word "mitigation" should be removed from the first sentence in the third paragraph on p. I.H.1. Although the features described would mitigate impacts on architectural resources that might otherwise occur, the features are key parts of the Downtown Plan, rather than separate mitigation measures to be considered for addition to the Plan.

C.3.2 Other Requests for Additions to EIR Text

The Heritage letter cites the statement on p. IV.B.75 of the EIR that "the TDR program would provide a means of compensating the owners of significant buildings for the required retention of their property." The referenced statement is not meant to imply that TDRs are required as compensation or that their purpose is to provide compensation. The statement is part of a discussion of the implications of the Plan from the perspective of C-3 District property owners. For clarification and to avoid confusion, the first sentence of the third paragraph on p. IV.B.75 should be revised as follows (rewording is underlined; wording omitted is in brackets):

> "The TDR program would provide an option for [a means of compensating] the owners of significant buildings [for the] required to be preserved [retention of their property] under the policies of the Downtown Plan."

D. DEMOGRAPHICS AND HOUSING

D.1. DEMOGRAPHICS

In commenting on the DEIR, an attempt was made to correlate certain populations trends for San Francisco with the development of office space to show a causal relationship and, thus, to extrapolate a future trend. The EIR rightly notes (p. IV.D.41) that the establishment of such a correlation is difficult. Many variables affect people's choice of their residence, variables which are frequently difficult to identify and even more difficult to measure.

Without attempting to prove or disprove a correlation between the development of the C-3 district and changes in the City's population, it is, at least, instructive to examine statistics and statements from the City's past, some of them antedating the current EIR and the Downtown Plan by more than forty years. In most cases, except where specifically cited, the sources are derived from the decennial Censuses of the United States, conducted by the Bureau of the Census, United States Department of Commerce. These sources are, if not absolutely unimpeachable, as close as any objective source of publicly available information may come to a claim of disinterested accuracy.

Consider first the following population trend for San Francisco since 1930:

Table C&R D.1: San Francisco Population 1930-1980

Year	Population	Year	Population
1930	634,394	1960	740,315
1940	634,536	1970	715,674
1945*	827,400	1980	678,974
1950	775,357		

*All years, except 1945, are U.S. Census figures. A special census was conducted in 1945 by the City to determine the impact of wartime conditions on the City.

Examining this trend, several things are to be noted. In the decade of the thirties, the population of the City was static. During the Second World War, a sudden upsurge of population occurred (though, except for the construction of "temporary" public housing to house war related industry workers, there was no major increase in the number of housing units during the war) owing largely to an artificial inducement of manufacturing industry in the City. This peak population was a mark from which the figures have declined ever since, despite the growth of office space in the City. Since the number of housing units has increased from 265,726 in 1950, the post-war peak year, to 316,608 in 1980, an increase of 50,882 units or about 18 percent (despite intervening losses to demolition for Redevelopment projects), it is difficult to establish a simple relationship between the two events, the growth of office space and the decline in the number of residents.

Although it is not a complete explanation of the particular factors that affect population growth or decline, it is certainly revealing to examine the size of the average household from 1940 to 1980:

Table C&R D.2: Average Number of Persons per S.F. Household, 1940-1980

Year	Number of Persons/Household
1940	2.80
1950	2.70
1960	2.44
1970	2.34
1980	2.19

These figures, all derived from the Censuses for those years, reveal a steady decline over the forty year period, even during the "baby boom" years. In one of the referenced documents, there is an extended treatment of the relationship of the City's housing stock to household size. (San Francisco Census Summary and Analysis, San Francisco Department of City Planning, 1972.) To sum the pertinent part, it suggests that for many years, the composition of the local housing stock, of which more than half consist of four or fewer rooms, favored the smaller household size. This was true in 1940, according to the Real Property Survey of San Francisco, and continues to be true forty years later. In 1980 the median (50% level) number of rooms was reported 4.0.

The impact of so large a proportion of smaller housing units on families was noted well before the current discussion in the EIR. In the above mentioned Real Property Survey of 1940, the following comment occurs in a section dealing with children:

> Only one out of four families in the entire city contains children under sixteen years of age. The absence of children varies considerably with the type of home occupied by the family. ... Less than one in eight of all occupied apartments and only one of every five units (mainly light-housekeeping rooms) in converted structures contain families with children. Even in single family homes there are few children, almost two-thirds being inhabited solely by adults./1/

On the next page, the following comment is of particular relevance to the present issue:

> Present inadequate accommodations for families will continue to influence their emigration into suburbs./2/

A decade later, in 1950, the report, The Population of San Francisco; A Half Century of Change, had this to say of families in the City:

> San Francisco's population is characterized by an exceptionally large number of "single person" or non-family population. The average size of household decreased from 1940 to 1950 and the City has fewer persons per household than most other large cities in the United States./3/

This continuing fact of city life in San Francisco was commented on in the report San Francisco Census Summary and Analysis, 1970, p.43ff, and there is no reversal of this trend in 1980. The decline in the number of families was noted in 1940, as was the predominance, in the City, of single persons and childless couples. Certainly, for families in the forties and fifties, the availability in suburban communities of more commodious housing, excellent financing, and cheap and adequate transportation made the central city a less attractive alternative for raising children. Then too, the development of the child-oriented suburban neighborhood, with its self-contained shopping facilities, entertainment centers, and schools proved a strong competitor for the newly formed or growing family. The point of this discussion is that the phenomenon of the disappearing family is not a recent one for San Francisco, nor is the "city of singles", often mentioned in recent writings on the City. San Francisco has not just become such a city; it has long been one. Even before the first major office towers were built in the fifties and sixties, San Francisco was a city unique in American "demographics", not to be measured by the standards even of nearby communities, let alone those of "Middle America."

There is a strong suggestion in the comments on the DEIR that office growth has had a negative impact on the numbers of several minorities, forcing them to leave the City. The following table was developed from 1970 and 1980 Census figures, and should be reviewed to analyze those trends.

Table C&R D.3: City Population, 1980 & 1970 by Ethnic Group

Group	1980	% of Total	1970	% of Total	70-80 Diff.	% Change from 1970
White	395,082	58.2	511,186	71.4	-116,104	-22.7
Black	86,414	12.7	96,078	13.4	-9,664	-10.1
Am. Indian	3,548	0.5	2,900	0.4	648	22.3
Asian & Pac.	147,426	21.7	97,389	13.6	50,037	51.4
Other	46,504	6.8	8,121	1.1	38,383	472.6
Total	678,974		715,674		36,700	-5.1
Spanish Origin*	83,373	12.3	101,701	14.2	-18,528	-18.2

*Spanish Origin are members of several of the above groups and are therefore already included in the total.

SOURCE: All figures cited are from the 1970 and 1980 Census of Population and Housing.

Several observations are in order based on this table. First, it will be noted that the largest decline in absolute numbers and in percentage from 1970 is in the White population. Second, the largest absolute gain is in the Asian and Pacific Islander category, a gain of over 50,000 persons and better than 50% of the 1970 population. Third, both Blacks and Hispanics show declines.

Black population decline may be attributed to two factors: lower fertility rates and lower net migration. The decline in the Hispanic population is complicated by a change in the Bureau of Census's attribution of Hispanic ethnicity. In 1970, a sample of those residents either having a Spanish surname or having indicated that the Spanish language was spoken in the home were used to develop the figure of 101,701 Hispanics in the City. In 1980, the technique changed sharply, at the instance of many Hispanic organizations interested in obtaining greater coverage of the Hispanic population. Question 7 on the form distributed to all households in 1980 asked whether or not the persons in the household were of Spanish descent. Thus all households rather than a sample were used to establish ethnicity. Secondly, although in 1970, a Spanish surname automatically counted as Hispanic ethnicity, there are persons of Spanish surname who did not claim such descent in 1980. Thus the Hispanic count is complicated by two factors: the change from sample to complete count and a radical change in the definition used to classify Hispanic persons. The 1970 total may have been inflated or overstated, the 1980 total may be somewhat understated. There is no basis on which to judge the comparability of the totals.

The issue of fewer Blacks in the City should be viewed in the light of the following data from the 1970 and 1980 Censuses. In 1970, the fertility rate for Black women 35-44, was 3,148 children for 1,000 women, ever married. (emphasis added). In 1980, the fertility rate for all Black women (not just married women) 35-44 was 2,267 children per 1,000 women. This represented a decline of about 28% in the fertility rate, without allowance for the difference in the population of women covered by the expanded definition in 1980. A concomitant factor was a lower migration of Blacks to San Francisco in 1980 than in 1970. Those not reporting residence in San Francisco County five years prior to the Census year in 1980 were 12,760 in number; in 1970 that figure was 20,433. While it is difficult to determine the reasons for the departure of Blacks from the City, a lower rate of natural increase resulting from lower birth rates and a lower in-migration are a notable part of the answer.

Even excluding Blacks and Hispanics from the totals, it is clear from the table that were it not for the net increase in the minority categories of American Indian, Asian and Pacific Islanders and Others, the decline in the City's population would have been even more extreme. It would be difficult, under the circumstances, to claim that the expansion of office space is responsible in and of itself for the population shifts claimed for minorities and families in the City.

Another commenter states that nearly a quarter of the City's residents in 1980 did not reside there in 1975. As a corollary to this it is stated as fact that nearly a quarter of those residing in the City in 1975 no longer live here, or, in other words, have left the City since 1975. These figures appear to suggest that San Francisco suffers from a higher than average rate of residential mobility. Before addressing the principal hypothesis, let us dispose of the corollary.

To say that those who left the City were replaced by the newcomers is to misunderstand the data. The data are derived from responses to the following question on page 6 of the 1980 Census questionnaire. It reads as follows:
15a. Did this person live in this house five years ago (April 1, 1975)?
> If in college or Armed Forces in April 1975, report place of residence there (Emphasis added)

In order to account for those residing in the City in 1975 but not in 1980, the figures for those in college or the Armed Forces, and for those deceased between 1975 and 1980 must be accounted for. Certainly, people left the City for any number of reasons, but they are not the entire difference between current and past residents.

To address the first question, reference is made to Table C&R D.4. In this table, derived from figures taken from the volume "General Social and Economic Characteristics," 1980 Census, it is readily demonstrated that for California's urban areas, its central cities (e.g. San Francisco, Oakland, Los Angeles), its Standard Metropolitan Statistical Areas, and for the particular SMSA of which San Francisco is a part, residential mobility is not uncommon. For the state as a whole, twenty-four persons of every one hundred reported not being a resident of their county in 1975 who were there in 1980. In San Francisco, that figure is somewhat higher -- twenty-seven persons in every one hundred--but not alarmingly so. These figures are based on a sample estimate and are therefore subject to variation which could conceivably diminish that slight difference. To state the data in another way: Seventy three out of every one hundred residents of San Francisco in 1980 resided in the City in 1975.

Table C&R D.4: Comparative Residential Mobility 1975-1980

	State - Urbanized Areas	State - Central Cities	San Francisco Oakland - San Jose Std Cons Stat. Area	San Francisco Oakland - SMSA (A)	San Francisco County (B)	A - B
Total, Over 5 in 1980	18,384,245	7,548,632	4,857,394	3,061,252	649,051	2,412,201
Same House in 1975	8,262,519	3,330,510	2,246,142	1,473,513	310,662	1,162,851
Diff. Hs., Same Co. in 1975	5,682,958	2,386,349	1,329,249	800,521	162,469	638,052
Resident Same Area in 1975-80	13,945,477	5,716,859	3,575,391	2,274,034	473,131	1,800,903
Res. Same Area as % of Total	76%	76%	74%	74%	73%	75%
Tables Cited*	Table 65	Table 65	Table 118	Table 118	Table 174	

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*Tables from which information was derived states only residence 75-80

SOURCE: 1980 Census of Population: Characteristics of the Population; General Social and Economic Characteristics PC80-1-C6

The suggestion that San Francisco's residential mobility is attributable to the growth of Downtown office space is difficult to sustain because similar mobility has been experienced, as shown by the tabular data, throughout the state as a whole and in urban areas in particular.

Although causal explanations of population movement and change in composition have not been attempted in the comments above, several suggestions are in order. If the recent past is reviewed for qualitative changes in the population of San Francisco, it may be observed that the reasons for change may have little to do with employment, although having a job is certainly a factor. Consider the Gay and Lesbian population of San Francisco. Accurate figures on the size of this population are not readily available, since queries about sexual preference are not included in Census questionnaires. Estimates variously place this component of the population in the range of ten to twenty per cent, or between sixty and one hundred twenty thousand persons. Gays and Lesbians were not attracted to the City because of its office boom; they came because of San Francisco's traditional tolerance for all styles of life, its cosmopolitan quality.

The refugees from Asia and Central America who have come to the City come because it is a traditional entry point for them; it has fulfilled that function since its inception in the nineteenth century. Many of the new arrivals have come in desperate circumstances, knowing no English, unused to American ways, here only because someone speaking their language and familiar with their way of life was on hand to greet them. To suggest that these new arrivals, some of whom who arrived after 1975, are not San Franciscans and are pushing others out of the City is to deny the tradition of this cosmopolitan City.

The balance of this section of responses is devoted to the discussion of several technical issue raised by the commentors. Demographic changes from 1930 to 1970 have been identified and discussed, as prior citations have shown. Although the definitive extension to 1990 has not, in all respects, been made, work with 1980 data in comparison with earlier census figures shows that many apparently new trends really are well based in the past of the City. The two monographs previously cited have accomplished much of the substantive work requested by the commentors. However, except for the projection of general population trends, the attribution of specific population characteristics to future populations is not recommended demographic practice. As may be seen from recent events, major changes in the character and composition of the city can occur suddenly. In 1950, even in 1960, no demographer could have taken the "gay revolution" into account. In 1940, demographers were sanguinely predicting the demise of the family, based upon their experience with Western European countries during years of the Great Depression. They commonly predicted a so-called "incipient decline" of population based upon a lowered fertility rate. This trend was suddenly and sharply reversed in the 1950's when circumstances favored larger families. Although there were certainly skeptics among them, many demographers in the 50's projected population increases based upon a continuation, or at the most, a gradual decline in fertility patterns. Suddenly, in the 1970's a sharp reversal again occurred, and fertility rates dropped. In circumstances like this, it is difficult to predict even total numbers, let alone detailed characteristics such as neighborhood densities.

The same difficulty holds true when attempting to predict changes in small areas of the City. Small area projection techniques are useful, particularly in areas not yet developed. There, the general patterns of urbanization may, with some safety, be predicted. This is especially true of highly controlled development such as new towns. However, in a city in which the housing stock is affected only slightly by new development and in which changes occur that are difficult to quantify, small area projections are often misleading. Holding capacities may be posited, but recent experience with the declining household size in the City make such projections suspect. Projections using persons per household were used in the early 1970's for informal estimates of Census tract populations, but required substantial revision on the evidence of the 1980 Census.

The development of a so called "discomfort index" to measure the impact of change on the resident of the City, as requested in a comment, is far more difficult than the level of service index cited for transportation. Many variables in transportation are measurable; some of the most significant variables connected with satisfaction in housing are qualifiable rather than quantifiable. Even so apparently objective a measure as housing condition was dropped from the 1970 and subsequent Censuses by the Bureau of the Census because of the inherent difficulty of providing a rating for housing. A number of difficult value judgements are required in order to measure satisfaction/dissatisfaction with shelter, and an index number attempting to combine disparate measurements is apt to do a disservice to the very purpose for which it is developed.

One comment cited the YBC Second Supplement to the Final EIR (82.35E) and requested that information on the existing population in the South of Market area. This information, based largely on 1980 census data, describes residential populations in the area generally bounded by Market, Third, Harrison and Eleventh Streets by ethnic group, age, and household size and discusses the existing housing stock and affordability (see YBC FEIR Second Supplement, pp. 66-71 and C&R 24-55). In general, the information on South of Market covers an area partly outside the C-3 District, the primary study area for the Downtown Plan EIR. The Downtown Plan EIR assesses effects of a regulatory scenario--a plan--for the entire C-3 District, whereas the YBC EIR analyzed impacts of a specific development program for a few blocks in the C-3 and M-1 Districts in South of Market; therefore, detailed setting information of the sort presented in the YBC EIR for this area was not key to the analysis of the Downtown Plan. Information about hotel and housing uses in the C-3 District is provided in the EIR on pages IV.B.8-9 and Tables IV.B.2 and 3. Land use changes effecting hotel and housing uses are analyzed in the impacts discussion pages IV.B.29-31, IV.B.34, IV.B.45-47 and IV.B.50-54. Effects of the Plan on land use and employment and the housing implications in the South of Market and other areas surrounding the C-3 District are discussed on pp. IV.B.55-56, IV.B.58 and IV.C.47-49; other sections of the EIR include non-C-3 information as appropriate (see e.g., Transportation analysis in section IV.E.). The detailed demographic and housing information in the YBC FEIR Second Supplement pp 67-72 and C&R 24-55 is hereby incorporated by reference as relevant to the Downtown Plan and Alternative analysis in this EIR, as summarized above.

Data on changes since the 1980 Census are not available. The Department is preparing a plan for the South of Market area west of the YBC Redevelopment Area, but detailed data on housing and residents has not been collected as yet. The survey presently underway as part of this study will not duplicate Census survey methods but will provide some indication of any changes since 1980. It is expected that this information will be available in the winter of 1984-85.

A final comment of a technical nature regarding the criticism of the use of residential hotel units as housing units in San Francisco is in order. The Bureau of the Census, Census User's Guide - Glossary, page 20 defines a Housing Unit as follows:

> HOUSING UNIT. A House, apartment, mobile home or trailer, group of rooms or single room occupied as a separate living quarter .... Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall.... (emphasis added)

By this definition, all rooms in residential hotels meeting the definition qualify as housing units. This has been the traditional posture of the Bureau in past Censuses.

D.2 RESIDENCE PATTERNS FORECASTING METHODOLOGY

This section responds to comments on the approach, methodology, and assumptions for forecasting the future residence patterns of C-3 District workers.

D.2.1 Residence Patterns Forecasts: Purpose And Methodology

What the Residence Patterns Forecasts Represent

The residence patterns forecasts identify the number of C-3 District workers expected to reside in San Francisco and in other counties of the region in the future. The forecasts were needed for considering how San Franciscans would share in downtown employment growth, for undertaking the transportation analysis, and for considering impacts on the housing market in San Francisco and the rest of the region.

Residence patterns by themselves do not describe housing impacts. They describe the expected places of residence of those employed in the C-3 District. Once residence patterns are identified, consideration can next be given to impacts on housing availability and prices and rents and then to the implications of those housing market effects. In other words, forecasts are needed to identify where C-3 District workers are likely to live before consideration can be given to all of the implications of this pattern.

The impact section in the EIR, Section IV.D, Residence Patterns and Housing Impact, is divided into two major topics. The first considers changing and future residence patterns of C-3 District workers. The second addresses the implications of employment growth and future residence patterns for housing in San Francisco and the region. Some of the comments indicate that readers were sometimes confused about these two perspectives. The presentation of the forecasts of future residence patterns is not meant to imply that the EIR accepts housing impacts as "a fait accompli". Instead, the EIR accepts the residence patterns forecasts and then goes on to identify impacts and, later, to consider mitigation measures.

Following the same perspective as the EIR, this section addresses those comments and portions of comments relating to the residence patterns forecasts. The next section (D.3) considers the comments about housing market impacts.

Forecasting Approach

The methodology for forecasting future residence patterns of C-3 District workers is described in detail in Appendix I of the Downtown Plan EIR (see pp. I.8-I.33). Appendix I identifies the factors considered, the analytical procedures used, the assumptions made, and the sources of data and information.

The forecasts of future residence patterns of C-3 District workers were prepared by considering changes in the number and type of C-3 District jobs within the context of forecasts and assumptions about how other factors besides C-3 District employment are likely to change over time. The diagram in Figure I.1 in Appendix I (p. I.10) summarizes all of the factors considered. These include the following:

- The number of jobs of various types in the C-3 District, since different jobs employ labor with different demographic and household characteristics and different housing preferences;

- The size and distribution of the future labor force throughout the region as affected by labor force participation and housing development;

- Employment growth in the C-3 District relative to employment growth elsewhere in San Francisco and in the rest of the region as influencing how jobs in the C-3 District compete for labor;

- Transportation systems as affecting the accessibility (time and cost) of C-3 District job locations relative to places of residence;

- Demographic, household, and lifestyle characteristics of the region's population as affecting housing needs and preferences for units of various types and in various locations (such as the ethnic/racial mix, overall age distribution, preferences for inner-city living, or the number of workers per household); and

- The cost of housing relative to other goods and services and differences in the relative cost of housing among locations within the Bay Area.

In response to one commenter, "all contributory" factors of importance were considered and incorporated into the forecasts.

The forecasting process drew from the analysis of survey data, Census data, and other information describing current conditions and recent and past trends. It also considered other forecasts of future labor force, housing, and employment throughout the region, principally those of the Association of Bay Area Governments (ABAG). In addition to Appendix I, sections of the EIR text describe changing residence patterns (pp. IV.D.42-IV.D.58) and the relevant future context for San Francisco and the region from 1980 to 2000 (pp. IV.D.58-IV.D.63).

Comments received indicate that the mechanics of the forecasting process were not always understood. In its simplest form, the process can be viewed as having two major components. One was describing the future context for San Francisco and the region in terms of the amount and distribution of labor force, housing, and jobs. This can be viewed as an overall, future setting. The second component considered the C-3 District workers within this future context and determined the likelihood that they would live in San Francisco or in the other counties of the region. The various analyses done to investigate the propensities to live in each county and work in the C-3 District are described in Appendix I (pp. I.21-I.24).

An important part of the forecasting process was to evaluate future residence patterns from two perspectives. One was to consider the percentage distribution of C-3 District workers among places of residence in light of current residence patterns and analyses of how and why this distribution appears to be changing. The other perspective was to consider the percentage of future employed residents of each county that would be represented by those working in the C-3 District in light of the current pattern and analyses of how and why this percentage is changing. To a large extent, this process was an evaluation of the changes expected in one part of the region (San Francisco and the C-3 District) relative to the changes expected in other parts of the region. Residence patterns might only change because of changes in the mix of types of jobs in the C-3 District if the current regional pattern of labor force, housing, and employment was expected to be maintained in the future. Since the future regional context indicates changes from the present, however, the goal of the forecasts was to determine how future residence patterns of C-3 District workers will differ from current patterns because of this changing context.

The reasoning process for deriving the forecasts was largely qualitative, based on review of future employment, population, housing, and transportation factors, as well as past trends. The Downtown EIR Employee Survey was also useful since it included questions about the relative importance of various factors in the household's decision to choose a housing location or in a worker's decision to choose a job. Analysis of this data helped to identify the nature of the trade-offs which workers and households continually make as they are faced with changing employment and housing options.

The comments include specific questions about various aspects of the methodology and assumptions for forecasting residence patterns. These are addressed in the following subsections.

D.2.2 Justification of Estimates of Future Housing Supply in San Francisco

An estimate of future housing units in San Francisco is used in forecasting the residence patterns of C-3 District workers. The future number of housing units is needed to estimate future households which, in turn, is used for estimating future employed residents of the City. For purposes of forecasting residence patterns, the future supply of San Francisco housing is derived from the existing stock plus new units expected to be produced minus units demolished or converted. The estimates of future housing supply used in the forecasts and discussed in this response do not necessarily describe the housing that is "needed" or that would be "sufficient" or that "should be provided". It is simply a forecast of what is expected to occur.

The EIR states that the average addition of housing in San Francisco after accounting for demolitions and conversions is expected to range from 600 to 1,500 units per year over the 20 years from 1980 to 2000. For the residence patterns forecasts, the most likely scenario of future housing development in San Francisco is estimated at an average addition of 1,000 units per year from 1980 to 2000. Because many factors beyond local control will affect future housing development, the EIR uses this most likely scenario but also considers possible alternative scenarios ranging from 600 to 1,500 units per year. (See discussion of future housing development in the EIR on pp. IV.D.61-IV.D.63 and pp. I.15-I.21.)

The most likely scenario (an average addition of 1,000 units per year) does not include housing built because of changes in C-3 District housing policy proposed in the Downtown Plan or Alternatives, nor does it include housing built as a condition of office development under the City's Office-Housing Production Program (OHPP). The effects of these policies were excluded from the basic scenario since they differ among the Plan and the Alternatives. The additional housing units that would be produced as a result of proposed C-3 District housing policy or the OHPP (if it was assumed to be included under an Alternative) were added to the basic scenario in the forecasting process to reflect the effects of the specific housing policy included in the Downtown Plan and each of the Alternatives.

The effects of the City's OHPP are not included under the Downtown Plan scenario of housing growth for purposes of forecasting residence patterns. The OHPP is treated in the EIR as a mitigation measure. Thus, for the Downtown Plan residence patterns forecasts, the additional housing that the OHPP would provide was not added to the basic scenario. The comment which alleges that housing added as a result of OHPP is counted twice is incorrect. It is not counted at all; not in the overall average addition of 1,000 units per year nor as the "OHPP bonus". This treatment of the OHPP is not inconsistent with statements in Appendix I. The text in Appendix I (p. I.16) states that "if an OHPP were assumed for future years, it would support a forecast of additional housing that is closer to the higher end of the range of 600 to 1,500 units per year". In other words, the "most likely" scenario of an average of 1,000 units per year would be closer to 1,500 units if the OHPP were assumed. The EIR text clearly states that the most likely scenario (of an average of 1,000 units per year) does not account for housing built under the OHPP (p. IV.D.62). (The portions of the comment which ask how the EIR defines an OHPP unit of housing are addressed in section D.3.1 since they are not relevant to the residence patterns forecasts.)

Under the Downtown Plan, there are proposed C-3 District policies that would have a small net effect on citywide housing development. It is estimated that of the 600 units forecast to be developed in the C-3 District from 1990 to 2000, about 200 would represent housing built that would not have been constructed in San Francisco without the proposed changes in C-3 District policy. The number of additional units (200) was added to the basic scenario for this 10-year period. A similar net addition is not expected from 1980 to 1990 because the Plan would only be in effect for part of that decade and because there is a large amount of housing already forecast for the C-3 District from 1984 to 1990. Thus, the scenario of housing development that was assumed to be the most likely for purposes of forecasting residence patterns under the Downtown Plan estimates the addition of 20,200 units in San Francisco from 1980 to 2000 or 19,200 units from 1981 to 2000 (the basic average of 1,000 units per year in the 1980's and 1990's plus an additional 200 units in the 1990's). (The housing expected under the policies of each of the five Alternatives is identified in Appendix I.)

The comment that states that no estimates are supplied on how many units will be produced for the years 1981 to 1990 is incorrect. These figures are provided on p. IV.D.61 and p. I.18. More attention is focused on the 1990-2000 period since the amount of additional housing in the 1990's varies somewhat according to the policies of the Plan and Alternatives. The forecast for the 1980's is the same for the Plan and all Alternatives.

The EIR recognizes that this amount of additional housing represents a larger addition in the 1980's and 1990's than occurred in San Francisco during the 1970's and 1960's. There are two main reasons for this estimate. One is that it is anticipated that rezoning to facilitate and encourage housing in and around the downtown area will result in housing being built there. Redevelopment plans for housing in these areas will also help to facilitate new construction. Secondly, the production of housing in San Francisco and throughout the region is expected to recover from the low levels of the early 1980's (when new construction averaged 780 units per year in San Francisco, 1980-82) although production is not expected to return to the conditions of the 1970's (when about 1,600 units were built per year in San Francisco). The demolition of large numbers of existing housing units that occurred in the 1960's and 1970's (such as for large scale redevelopment projects) are not assumed to occur in the future so that a larger percentage of newly built units will represent additional housing. The intent of the Residence Element of the City's Comprehensive Plan to restrict the conversion and demolition of housing in commercial and industrial areas could also result in the loss of fewer units.

The EIR description of the future context for housing in San Francisco includes the above factors (see pp. IV.D.58-IV.D.63 and I.15-I.21). The comments which state that there is "no support" for the assumptions about housing supply or that the assumptions are "unjustified" are not correct.

The EIR also points out that other forecasts and projections expect more housing production in San Francisco than is assumed in the EIR. For 1980-2000, ABAG forecasts the addition of 1,500 units per year in its Projections '79 report and projects the addition of 1,472 households per year for San Francisco in its Projections '83 report. The goal stated in the City's Residence Element (1984) is for the addition of 2,000 units per year.

Several commenters refer to the recent data which indicate that fewer than 1,000 units were added in San Francisco in 1980, 1981, and 1982. As noted above, the EIR recognized and anticipated that the early 1980's would have lower than average housing construction. Preliminary data for 1983 indicate a net gain of approximately 1,100 units.* Recent data also indicate that although new construction slowed from 1979 to 1983, permits for new housing units have continued to be authorized at a rate of approximately 1,200 units per year. It is too early to tell how the recent, short-term trend will affect the overall, average, longer-term pattern.

One of the inputs for the estimate of additional housing in San Francisco was information from the City's Residence Element about the potential for new housing construction throughout the City. As pointed out by one of the comments, the numbers of potential units on housing opportunity sites in the 1984 Residence Element sometimes differ from the estimates used in the preparation of the residence patterns forecasts of C-3 District workers, which were completed before the final version of the 1984 Residence Element. The differences are not large and would not affect the residence patterns forecasts presented in the EIR. For example, the 1984 Element shows 57,190 potential units on housing opportunity sites, whereas an earlier version used in the EIR analysis estimated about 62,500 potential units. With the 1984 figures, the most likely scenario of additional housing by 2000 would represent about 33 percent of the total potential, whereas it would represent about 30 percent of the earlier total. Since most of the difference results from the potential units in the mixed residential-commercial use areas (17,500 potential units in the 1984 element compared to 22,300 units in the earlier version), the differences in the percentages assumed to be built by 2000 would be larger for this group than for the totals. However, the differences are still not large enough to affect the forecasts. The reasons for the differences are discussed in the response to comments under Section B.4.2. (It should be noted that the numbers of potential units in this response are not the same as those cited in the comments from the Council of Community Housing Organizations. The numbers referred to here are those in the 1984 Residence Element and Errata/Addendum dated June 21, 1984 and those used previously in this analysis as cited in the EIR.)

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*See Residence Element Errata/Addenda issued by the Department of City Planning, June 21, 1984.

One commenter (the Coalition for San Francisco Neighborhoods) asks for clarification about a specific sentence in the EIR regarding the estimates of future housing supply. On pp. IV.D.61-IV.D.62, the EIR explains that the most likely scenario of an average addition of 1,000 units per year does not include housing built because of changes in C-3 District policy proposed in the Downtown Plan nor housing built under the OHPP (as discussed above). The text goes on to say that "other proposals from the City's Residence Element to expand the supply of housing in several areas near to the C-3 District are included in these forecasts." To clarify: the "other proposals" refer to other proposals in the Downtown Plan that originated in the Residence Element. These proposals are not specific to the Downtown Plan and not assumed to be conditioned upon the approval of the Downtown Plan. These include the potentials for housing in Rincon Point- South Beach, Yerba Buena Center, the Van Ness Avenue corridor, Rincon Hill, Central South of Market, and South Van Ness. These areas are identified in Map 9 in the Plan.

D.2.3 Basis for Future Context of Housing Supply in the Region

Data summarizing the past, current, and estimated future amount and distribution of housing throughout the region were also incorporated in the EIR residence patterns forecasts. The statistics on past and current (1980) housing supply in each Bay Area county are from the U.S. Census. The forecasts of future housing supply in the region outside of San Francisco are those of ABAG. The housing supply data and forecasts are summarized in Appendix I (see Table I.1, p. I.12 and associated text). The ABAG forecasts of regional housing supply incorporate land use policies and development plans from all Bay Area counties.

Important points about the future regional context for housing are summarized in the EIR on pp. IV.D.58-IV.D.60. The production of housing throughout the region is expected to recover from the low levels of the early

1980's. However, the production and cost of housing is unlikely to return to the conditions of the 1970's. The total regional housing supply forecasts used in the Downtown Plan EIR reflect an annual average addition over the 20 years from 1980 to 2000 of about 33,000 units per year. Between 1970 and 1980, about 44,000 units per year were added in the region. This scenario is implicit in both the EIR residence patterns forecasts and the ABAG regional forecasts of population and housing to the year 2000.

The responses to comments in Section D.3.2 compare the EIR forecasts of residence patterns of C-3 District workers with the forecasts of labor force and housing throughout the region and provide more discussion in response to comments about the regional perspective.

D.2.4 Scenario of Future Labor Force and Workers Per Household

As explained in the EIR, the future size and distribution of the labor force throughout the region (the residence pattern for the region's employed population) depends not only on the future supply of housing, but also on demographic factors affecting the number of workers per household. Expected trends in labor force participation and workers per household were considered with the housing supply forecasts in estimating the future distribution of employed residents throughout the region. The scenario of employed residents provides the future context of the supply of labor from which those working in the C-3 District will be drawn.

The future context of labor supply is summarized in the EIR (see pp. IV.D.58-IV.D.60). The estimates of future employed residents are presented in Appendix I (see Table I.2 on p. I.14) as is the description of the methodology (see pp. I.11-I.21). Background data explaining relevant recent and past trends are also presented in the EIR (see pp. IV.D.42-IV.D.54).

The comments on this aspect of the residence patterns forecasts indicate that there are misunderstandings about the forecast of workers per household. Several points should be clarified. First, the EIR does not forecast household size in terms of persons per household. It only forecasts workers per household. Employed persons are a subgroup of all persons per household.

Second, it is not inconsistent for the average number of workers per household to increase while the average number of total persons per household declines. In fact this is precisely what occurred in San Francisco and in the region overall from 1970 to 1980. The EIR uses U.S. Census data to describe these trends (see pp. IV.D.42-IV.D.46 and p. I.17). Since these trends are not inconsistent, it is appropriate to forecast future increases in workers per household (at a declining rate of increase) even though past trends indicate that average persons per household has been declining.

Third, as explained in the EIR, the past and forecast future changes in the average number of workers per household account for the effects of many demographic, economic, and lifestyle factors. While housing market factors play a role, they are certainly not the sole reasons for these trends. Some of the comments imply that the trends and the forecasts reflect only the effects of C-3 District growth on the housing market. This is not correct. The effect of one factor, such as employment growth, cannot be separately identified.

Fourth, the EIR does not "blithely assume that the household size of the workforce in C-3 District office buildings will increase...(while) for the rest of San Francisco, household size will continue to decline". As stated above, the EIR does not forecast or make any assumptions about household size (total persons per household) for either the C-3 District worker population or for the rest of the population of San Francisco. If the commenter meant to refer to workers per household, instead of persons per household, the comment is still incorrect. The EIR does not assume that workers per household in households with C-3 District workers will increase while workers per household in all other households will decline.

Regarding the comment above, potential confusion may arise because the average number of workers per household in only those households with workers (such as the group of all San Francisco households with C-3 District workers or the group of all City households with at least one worker) is higher than the citywide average number of workers for all San Francisco households (which includes households with no workers). This relationship is documented in the EIR using Census data and data from the Downtown EIR Employee Survey. This relationship is expected to continue in the future and is consistent with and implicit in the residence patterns forecasts in the EIR.

Fifth, another commenter asks about "the implications of the EIR forecast that household size in San Francisco will increase." As stated above, the EIR does not forecast future household size (total persons per household). The implications of an increase in workers per household (which is forecast) are elaborated on in the response to comments in Section D.3.

In reference to the above comment, it is generally expected that higher housing costs relative to incomes will support higher average numbers of workers per household and, potentially, higher average numbers of persons per household (household size). However, this means higher than would otherwise be the case, not necessarily an absolute increase (i.e. there could be a lower decline rather than an absolute increase). Demographers are monitoring recent trends to see if the changes in costs of housing in the late 1970's and early 1980's seem to be affecting trends in household sizes. The evidence is not in yet. Further, it should be understood that changes in household size (increases or decreases) are influenced by many other factors besides housing costs.

D.2.5 How the Forecasts Account for Employment Growth Outside the C-3 District

The EIR focuses on forecasting the residence patterns of C-3 District workers. Surveys and analysis were done specifically for the business activities in the C-3 District. The same level of analysis cannot be done for other employment growth since comparable data for residence patterns and future employment are not available for growth in other areas. Further, it is not the purpose of this EIR to study the impacts of all growth in San Francisco or in the Bay Area. Thus, other employment growth cannot be and was not analyzed on an "equal footing" with C-3 District growth in this EIR, as requested by a commenter. Comparable, quantified forecasts are not available for growth in other areas.

Employment growth outside the C-3 District was considered and included in the EIR analysis, however, as part of the future, local and regional context. It was considered in terms of both the amount of employment growth expected outside the C-3 District and the distribution of that growth among locations in the rest of the City and the region.

Several sections of the EIR discuss the future local and regional context regarding employment growth outside the C-3 District and describe how this context was incorporated into the residence patterns forecasts. (See pp. IV.D.58-IV.D.61, and to Appendix I, pp. I.11-I.15 and I.21-I.24.) The paragraphs which follow clarify the specific analytical procedures in response to comments.

One way in which future region-wide employment growth was incorporated into the residence patterns forecasts was through the scenario of future employed residents in counties throughout the region. In total, the number of employed residents of the region equals the number of jobs in the region (after accounting for the relatively small number of people who either commute out to jobs outside the region or commute in to Bay Areas jobs). The former is tabulated according to place of residence (employed residents) and the latter is presented according to place of work (employment). Thus, the overall scenario of future employed residents throughout the region not only accounts for housing growth and the residential distribution of workers throughout the region (the regional residence pattern of the employed population), it also accounts for the total amount of employment. In other words, the regional context of employed residents from which the C-3 District workers are identified accounts for all the workers needed in the region to fill the total number of jobs that are forecast.

The regional scenario of employed residents used in the forecasts and presented in the EIR was prepared prior to the release of ABAG's Projections '83 report. The estimates are very similar, however. The EIR estimates are slightly higher than the ABAG forecasts; this is consistent with the EIR's higher employment forecasts for the C-3 District. Overall, the EIR scenario for future employed residents is consistent with the regional scenario for future employment.

The other way in which future employment is incorporated into the residence patterns forecast focuses on the distribution of employment within the region. The future location of employment growth throughout the region will affect the ability of C-3 District businesses to compete for workers residing in the various counties, and it will affect the competition that C-3 District workers will face for housing in various locations. County employment data was used to describe recent trends and ABAG employment forecasts identified the likely future distribution of employment and employment growth throughout the region.

As described in the EIR, the combination of Census data (identifying total employed residents in each county) and the Downtown EIR survey data (identifying C-3 District workers residing in each county) provided a measure of the "propensity" to live in a particular county and to work in the C-3 District (shown as the percentage of employed residents in each county who work in the C-3 District). As shown in the EIR, this "propensity" varies among Bay Area counties (see particularly pp. I.21-I.24). The amount and distribution of other employment relative to the distribution of population and households and the accessibility of C-3 District jobs relative to other employment are among the factors contributing to these differences.

In forecasting future residence patterns, detailed consideration was given to how these propensity factors would be affected by changes over time in the distribution of other employment relative to C-3 District employment and relative to the location of households and employed population. For example, it was reasoned that the relatively large growth of employment forecast for eastern Contra Costa County is likely to affect the competition for labor from among residents of eastern Contra Costa and eastern Alameda counties (see pp. IV.D.60-IV.D.61). This changing pattern could increase the percentage of employed residents in these counties who work in eastern Contra Costa County and lower the percentage who work in other areas, including San Francisco. Changes of these types were incorporated into the forecasts through a qualitative reasoning process which considered all of the various factors which influence where people live and work and the resultant commute patterns.

Several comments specifically address future employment in other parts of San Francisco outside the C-3 District. Although employment forecasts comparable to those for the C-3 District are not available for other City areas, citywide employment was considered in the residence patterns forecasting process. In developing the C-3 District forecasts, the percentage of total employed residents represented by those working in the C-3 District was evaluated as to its reasonableness in terms of the implied percentage of employed residents working in other City areas and outside the City (treated as a residual). Citywide scenarios were also developed which combined future employment, employed residents, and the number of persons who will both live and work in San Francisco. For these purposes, alternate estimates were used for employment growth from 1980 to 2000 in City areas outside the C-3 District. These ranged from 60,000 to 90,000 jobs. The range reflects uncertainty about future policies in other City areas, differences in C-3 District policy among the Plan and Alternatives, and differences in economic outlook as reflected in ABAG's forecasts for San Francisco and in analyses and forecasts done as a part of this EIR.

Several comments state that the EIR appears to be comparing total City housing supply with only C-3 District employment, thereby omitting consideration of other employment growth. These comments are incorrect. As explained above, other employment in the rest of the City and the rest of the region was included in the analysis. The confusion may arise because the EIR focuses on the C-3 District and because more detailed information and analysis are available for the C-3 District. However, the C-3 District analysis and forecasts were done within a future local and regional context of cumulative growth and changes over time.

Specific comments state that the EIR treats the Rincon Point-South Beach Redevelopment project and the Rincon Hill Plan incorrectly by counting the housing supply in the citywide estimates of housing growth without counting the employment growth. This is also not correct, for the same reasons described above.

D.2.6 The Residence Patterns Forecasts Account for Housing Affordability

Overall Consideration of Housing Affordability

Housing affordability refers to the relationship or "link" between housing costs (prices, rents, and other costs) and household incomes. It was accounted for in the residence patterns forecasts. The following provides a summary of the basic assumptions about housing affordability and of how these assumptions were incorporated into the analysis and forecasts.

The EIR identifies the assumptions made about the housing market and overall housing affordability throughout the Bay Area (see pp. IV.D.58-IV.D.60). Of particular relevance to this response is the assumption that the availability and cost of housing are unlikely to return to the conditions of the 1960's and 1970's. Housing will remain more costly relative to incomes and to other goods and services than it was in the past. On the other hand, the severe constraints on financing and the resultant high costs of housing in the early 1980's are not expected to continue over the long term. It is also expected that efforts to produce more affordable housing will result in some construction of below-market units, through the use of vehicles such as mortgage revenue bonds. Large scale subsidies for housing, such as from federal programs, are not assumed. Housing in the Bay Area is assumed to remain more costly than that in many other areas of the country.

This basic scenario is implicit in the EIR residence patterns forecasts and in ABAG's regional forecasts. It is incorporated into the residence patterns forecasts through the scenarios of future housing supply, future employed residents, and future employment. More housing development and more employment would be forecast for the region, if housing were expected to be less costly than assumed in this EIR. Alternatively, less employment and fewer employed residents would be forecast if it were assumed that the workers needed for these jobs would not be housed in the Bay Area because they were unable or unwilling to pay for housing in the region.

The EIR analysis also recognizes that it is and will continue to be difficult to produce new housing that is affordable to many of the region's residents. Similarly, not all of those workers newly employed in downtown San Francisco because of employment growth will be able to afford new housing. As new housing is built, those who can afford it will move in and others will take the housing they vacate, thereby vacating their housing for other people, and so on. The EIR recognizes the dynamic pattern which occurs as people move in and out of the region and others change their housing within the region for a variety of reasons. It is not simply a situation where the additional people directly occupy the new (additional) housing, as is implied by some comments.

This "re-shuffling" pattern explains why households can be added even though the market is not expected to directly produce new housing that all of them can afford. It also explains how additional households can end up in existing housing in relatively closer-in locations, while the market adds new housing in peripheral locations that are quite distant from the center. Further, it responds to those comments which say (incorrectly) that it is necessary to "match" household incomes of additional workers with the prices and rents of the new housing in order to forecast residence patterns.

The residence patterns forecasts account for the reshuffling of households among housing within the region, as well as for the location of additional housing units. These changes are accounted for in the distribution of employed residents among counties of the region. They are also incorporated in the propensity factors (discussed above) which identify differences among counties in terms of the percentage of all employed persons represented by those working in the C-3 District. For example, the increasing relative attractiveness of older housing in closer-in neighborhoods could result in a higher propensities in the future than is currently the case in these areas, i.e., more C-3 District workers as a percentage of all employed residents. This type of change would probably be the result of several factors including relative affordability, housing preferences, and accessibility/transportation (since there are transportation cost savings of closer-in locations as compared to ones further out where the housing may be less costly but the transportation costs are higher).

To summarize, housing affordability is important in forecasting residence patterns of C-3 District workers in terms of its effect on housing development, on the growth of the region's workforce, and on the distribution of workers among housing locations in the region. These aspects are discussed above. Other concerns about housing affordability, such as concerns about the implications for those with fewer resources and requests for data describing the incomes of the additional C-3 District workers, are addressed in other responses to comments (see Section D.4).

Specific Assumptions Related to the Production of Affordable Housing

Related to housing affordability within the context of forecasting residence patterns, there were a few specific questions about the assumptions regarding rental housing, the prices/rents of the new housing to be built in the C-3 District, and the prices/rents of the new housing to be added throughout San Francisco.

Regarding the supply of rental housing, it is expected that the production of rental units will become somewhat more feasible as rents increase over time and that, eventually, some rental housing will be built in some parts of the region. At least for the foreseeable future, the amount added will not be large.

Regarding the housing to be added in the C-3 District by 2000, the description in the text (pp. IV.B.50-IV.B.52) is provided to identify the types and price ranges of the new units, primarily for comparisons among the Plan and Alternatives. (The Consultant's Report explains that the policies of the Alternatives would have different effects on the amount and types of housing built. See pp. V.B.58-V.B.68 of the Consultant's Report. Also see p. VII.B.7 for a summary of the Alternatives.) The description of C-3 District housing production is not meant to imply that this housing is provided only for C-3 District workers nor that "all" of the workers can afford housing in these price ranges (as alleged in the comments). Some of the workers could afford this housing; others could not. As described in this response and in the EIR, the process of forecasting residence patterns of C-3 District workers is much more comprehensive and complex than matching downtown workers with downtown housing.

Regarding housing production in San Francisco one commenter asks how much these units will cost. It is expected that most will be market rate units. Some (probably in the range of 10-20 percent) are expected to be below market rate as a result of such vehicles as mortgage revenue bonds, redevelopment, and inclusionary requirements or incentives.

D.2.7 The Results of the Residence Patterns Forecasts

The residence patterns forecasts of C-3 District workers are presented in the EIR on pp. IV.D.63-IV.D.71. The forecasts identify the number and percentage distribution of C-3 District workers expected to reside in San Francisco and in other counties of the region in the future (see particularly Table IV.D.16 on p. IV.D.67). This information responds to the comments which ask: "where will the workers live?".

The forecasts of future residence patterns of C-3 District workers were prepared for San Francisco, for commute corridors of the region (east bay, south bay, north bay), and for each of the counties outside of San Francisco. The forecasts for San Francisco were further subdivided to provide estimates for the four quadrants of the City. The forecasts could not be prepared for the many individual jurisdictions within counties outside of San Francisco. (Questions regarding the C-3 District workers to be residing in a specific city outside of San Francisco are addressed in Section D.3.2 which responds to comments about the regional housing market.)

The residence patterns forecasts were prepared for the major different types of business activities (office, retail, hotel, etc.) and then combined to produce the totals for all C-3 District workers.

As one commenter points out, construction workers and building maintenance/security personnel were not included in the Downtown EIR Employee Survey. For the reasons stated in the EIR (p. IV.D.5) it is reasonable to assume that the combined residence patterns for workers in these groups are similar to the average pattern (percentage distribution) for all of the other workers in the C-3 District. This same assumption was used in estimating the future residence patterns for workers in this group. In other words, the percentage distributions of all C-3 District workers among counties of the region in future years (those shown in Table IV.D.16 on p. IV.D.67) were applied to the number of construction and building maintenance/security workers in corresponding future years (1990 or 2000) to estimate the future residence patterns of this group of workers. The totals shown in the EIR tables describing future residence patterns (see Table IV.D.16) include these workers. Since the amount of employment in these groups would be small relative to total C-3 District employment (three percent of total employment in 2000 and 0.5 percent of 1984-2000 employment growth) any error introduced by these estimates would not affect the overall residence patterns. As for the question of whether most of these employees would be likely to acquire housing outside the City, the forecasts indicate that by 2000, about half of them would be residing in San Francisco and about half would be living outside of the City.

In response to the question about how many new commuters are assumed in each area of the region, the commenter is referred to p. IV.D.68. The table on this page (Table IV.D.17) identifies the forecast increases in the numbers of C-3 District workers to be commuting to the C-3 District from each commute corridor of the region. Additional commuters by county can be derived from the forecasts on p. IV.D.67 (by subtracting the 1984 totals from the 2000 totals to get the change from 1984 to 2000). The numbers are not simple assumptions, but are the result of the comprehensive data gathering, analytic, and forecasting effort described in this response. Comparisons of these forecasts to the growth expected in other parts of the region is provided in the response addressing regional housing market impacts (Section D.3.2).

D.2.8 Validation of Forecasting Methodology

As described in the EIR and reiterated in the responses to comments above, the methodology for forecasting future residence patterns incorporates a variety of types and sources of data and information concerning past, current, and likely future conditions regarding demographic, housing market, and employment factors for San Francisco and the region. The conceptual and analytical framework is based in housing market theory. (See Wallace F. Smith, Housing: The Social and Economic Elements, Berkeley and Los Angeles: University of California Press, 1970, for background on the economics of housing markets.)

The methodology and the residence patterns forecasts have been carefully evaluated. The starting point or base year was structured to reflect existing conditions using data from the U.S. Census and the Downtown EIR Employee Survey. In completing the forecasts, attention was given to whether all relevant factors were considered and to the assumptions and forecasts made about those factors in the future. The trends and patterns reflected in the forecasts were reviewed, considering whether explanations for the results appeared reasonable from the perspectives of both job location and place of residence (see particularly p. I.25).

Sensitivity analysis was done to test the implications for residence patterns of different assumptions and forecasts about other factors besides C-3 District employment growth. As described in Appendix I, several different residence patterns scenarios were prepared and then evaluated as to their reasonableness and as to which one would be the most likely (see pp. I.26-I.30). In addition, the analysis of Alternatives provides other residence patterns forecasts. Comparison among the forecasts for the Plan and Alternatives describes the "sensitivity" of the results to differences in C-3 District employment growth.

D.2.9 Consideration of the Jobs/Housing Relationship

Several comments ask about San Francisco's citywide jobs/housing balance or imbalance in the future. As explained earlier, comparable, detailed forecasts for the non-C-3 District parts of San Francisco are not available. However, using the range of possible estimates, it is expected that from 1980 to 2000 San Francisco would add about 20,000 housing units and about 170,000 to 200,000 jobs. As stated in the EIR, this indicates a better "match" between job growth and housing growth in San Francisco in the future than occurred in the past (see p. IV.D.78 and note 59). This conclusion takes into account job growth outside the C-3 District as well as within the C-3 District. (Consideration of San Francisco's growth of jobs and housing within the regional context is expanded upon in the response to comments about regional housing impacts in Section D.3.2.)

ABAG requests data about job and housing growth in other Bay Area communities. As explained above, the EIR analysis used ABAG's data for Bay Area counties outside of San Francisco. The EIR analysis did not use data for individual communities within counties.

ABAG also requests that the EIR provide a mapping of the communities expected to have more workers than jobs and those with more jobs than workers. Except for San Francisco, such a mapping could be provided using ABAG's forecasts. Both the EIR analysis and the ABAG forecasts indicate that San Francisco, Santa Clara, and San Mateo counties are expected to have more growth of jobs than workers from 1980 to 2000. All of the other counties in the east bay and north bay are expected to have more growth of workers than jobs. The figures below provide a regional scenario of the growth of jobs, workers, and housing using figures from this EIR and from ABAG.

Scenario of Regional Growth, 1980-2000

	Employment Growth (a) (000)	Growth in Employed Population (b) (000)	Additional Housing Units (c) (000)
San Francisco	170-200	56	20
East Bay (Alameda Contra Costa, Solano, Napa)	343	462	329
South Bay (San Mateo, Santa Clara)	433	380	209
North Bay (Marin, Sonoma)	104	173	90
TOTAL	1,050-1,080	1,071	648

(a) Employment growth for San Francisco was estimated as a part of the analysis done for this EIR. The forecasts for the rest of the region are from ABAG's Projections '83. Although it is possible that higher employment growth in San Francisco (as compared to ABAG's forecasts) could mean lower growth in other parts of the region, it is assumed above that the higher growth for San Francisco would be added to the regional total. (This provides a "worst case" scenario.)

(b) These estimates were prepared for purposes of forecasting residence patterns of C-3 District workers under the Downtown Plan and Alternatives. They were prepared prior to the release of ABAG's forecasts of employed residents in its Projections '83 report (prior ABAG reports did not include forecasts of employed residents). The EIR figures and those developed by ABAG are very similar (see p. I.14 and note 6 on p. I.31). They are both based on the same housing forecasts for counties outside San Francisco.

(c) Additional housing units for San Francisco are based on the most likely scenario of housing development done for purposes of this EIR. The additional units for the rest of the region are forecast by ABAG in its Projections '79 report. (The Projections '83 report does not include housing units. See p. I.12 and note 3 on p. I.31.)

Although the EIR does not provide a mapping of the type requested by ABAG, the EIR analysis considered the implications of changing regional patterns of housing and job growth in forecasting future residence (and commute) patterns for C-3 District workers. The EIR agrees with ABAG that the future residence patterns of C-3 District workers depend on many regional factors including: employment, housing, labor force, transportation, demographics, and lifestyle. All of these factors affect overall regional growth and the distribution patterns of where people work, where they live, and how they commute from home to work.

The EIR explains how these factors were incorporated into the forecasts of future residence patterns of C-3 District workers (see pp. I.8-I.30). Many of the responses earlier in this section clarify and expand on the basic approach and on how certain factors were considered. Questions about the implications of future patterns in terms of housing market impacts are addressed in the next sections (D.3.1 and D.3.2).

From the perspective of forecasting and evaluating future residence patterns, there are two points which might help to clarify concerns about the relationship between jobs and housing. One is that the future distribution of workers among counties (or communities) of residence throughout the region is better seen by the distribution of employed persons than by the distribution of housing units. The number of employed residents in a particular area depends on the housing there and on the demographic and household characteristics of those who choose to live there. In some communities, changes in the characteristics of those occupying the existing housing stock can have as much of an effect on the number of workers housed in a particular area as can the addition of housing. Thus the situation is often more complex than indicated by the ratio of additional jobs and additional housing units. The forecasts of future residence patterns must consider changes in both the housing supply and the amount and distribution of employed labor, as compared to changes in jobs.

A second point is that the number of employed persons and the number of jobs used in the forecasts matches at the regional level. It does not necessarily match at the local level. In most situations, the boundaries between communities do not correspond with divisions between employment areas or between housing submarkets. Further, the residential neighborhoods which provide housing for a particular employment center (because they are closest or because they offer the range of types and prices/rents of housing required) may not be located in the same community as the employment. Even if the numbers of employed persons and jobs matched for a particular community, it would not necessarily indicate that all of the same individuals lived and worked in that community. There could still be commuting among different parts of the region. (Recently, the increase in households with more than one worker has made it less likely that these factors will "match" because this increases the probability that one of the workers would have a job outside the community lived in.) Thus, while the ratio of jobs to housing can be useful for some purposes, in considering overall residence patterns it is more meaningful for larger areas than for individual communities.

D.2.10 Reasons for Changing Residence Patterns

First, a commenter asks why current residents who continue to work in San Francisco might decide to move outside the City. Such moves could be for a variety of reasons. Housing market factors such as the cost of housing in San Francisco relative to the cost of housing in other areas could be the reason for some households. Others may move for lifecycle reasons such as the birth of children and the resultant desire for the amenities and schools of the suburbs. Others may move because of changes in the place of work of other workers in the household. Still other households may move to seek a change in lifestyle or type of housing such as that offered in a more secluded, lower density location. There are no data to identify how many San Francisco worker households move out of the City for each of these types of reasons. There are also no data to describe the economic and demographic characteristics of those who move from the City without changing their place of employment.

The commenter is referred to the diagram in Figure IV.D.2 on p. IV.D.50 of the EIR and to the associated text. This discussion explains how the published data describe the overall patterns in terms of the aggregate, net changes but do not describe all of the individual changes which make up the overall pattern.

Second, the commenter asks about new residents of the City--why they move into San Francisco and their demographic and economic characteristics. Again, there are no good data to describe the subgroup of new residents of the City. Comparison of the Census data over two points in time describes the aggregate changes in overall characteristics of the City's population. It does not separately identify the characteristics of those who moved in and those who moved out, nor the changing characteristics of those who continued to live in the City. Further, it does not identify the reasons why the new residents chose a San Francisco location. Most likely, these reasons vary among households and include a variety of factors.

The data from the Downtown EIR Employee Survey provide some insights into the relative importance of place of employment in the decision of where to live. The survey also provides some information about the factors considered to be important to those C-3 District workers living in San Francisco. This data relate only to the group of C-3 District workers and not to the groups about whom the commenter specifically asks (those who continue working in the City and move out; and those who are new residents of the City).

The Downtown EIR Employee Survey asked C-3 District workers about the relative importance of various factors in their households' decision to live at their present residence. The results indicate that proximity to one's workplace is an important factor. More of those living in San Francisco and in nearby cities identified the time and cost of commuting to and from work as having a very positive influence on the choice of their current residence. More of those living in the outlying counties checked commuting as having a very negative influence on their housing decisions. The results of the survey also indicate that many of the worker households make trade-offs between the time and costs of commuting to work, the cost and type of housing, and the character of the neighborhood. For certain households, the quality of the public school system and the crime rate in the surrounding area are also important. It can be concluded that those employed in San Francisco have some degree of preference for housing in San Francisco because they are employed in the City. Whether individuals actually live in the City also depends on these other factors. (More discussion is provided in the EIR on pp. IV.D.57-IV.D.58.)

The EIR Survey results from only those C-3 District workers who live in San Francisco provide insights into why this group chose City housing. Among the factors affecting their decision to live in San Francisco, the character of the neighborhood was listed the most often as having a very positive influence on their housing choice. The availability of public transit and, then, the time and costs associated with work trips were chosen as being very positive factors by the next largest numbers of respondents. After that, the type of housing (single family, multi-family) and, then, the quality of the dwelling were listed by the next largest numbers of workers. The crime rate, the quality of the school system, the cost of housing, and the time and costs associated with non-work trips were not often listed among the reasons why they chose San Francisco. In some cases, these were listed as negative factors which were offset by the positive ones described above.

D.2.11 Errata

Table IV.D.2 on p. IV.D.4 of the Draft EIR contains two typographical errors. One is in the first column, for the percent of the total C-3 District workforce residing in the North Bay; the other is in the second column, for the percent of the management/technical office employees living in Solano/Napa. A corrected version of the table follows, with the corrections underlined.

TABLE IV.D.2: EMPLOYEE RESIDENCE PATTERNS FOR THE C-3 DISTRICT, BY BUSINESS ACTIVITY, 1981

County of Residence	Total C-3 District	Workers By Business Activity				
		Management/ Technical Office	Trade/Customer Service Office	Retail	Hotel	Cultural/Institutional/ Educational
	%	%	%	%	%	%
San Francisco	56.8	48.9	64.9	77.2	82.4	72.7
Alameda	12.7	16.0	6.6	3.9	7.9	12.4
Contra Costa	10.8	14.2	3.2	7.0	1.4	4.6
Solano/Napa	1.1	1.6	0.0	0.0	0.3	0.0
East Bay	24.6	31.8	9.8	10.9	9.6	17.1
San Mateo	11.3	10.0	20.0	9.5	6.6	8.4
Santa Clara	0.7	0.9	0.2	0.0	0.0	0.1
South Bay	12.0	10.9	20.2	9.5	6.6	8.5
Marin	5.9	7.4	5.0	2.0	1.4	1.4
Sonoma	0.7	0.9	0.1	0.4	0.0	0.3
North Bay	6.6	8.3	5.1	2.4	1.4	1.7
Other	small	0.1	0.0	0.0	0.0	0.0
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

NOTE: The information in this table is tabulated from responses to the Downtown EIR Employee Survey. (See Appendix F for description of the survey methodology.) Employee responses are tabulated by the business activity of their employer. The information is presented to highlight differences among groups. The overall pattern is more accurate than the percentage for an individual group particularly for the trade/customer service office and cultural/institutional/educational groups where the sample size is small relative to the large variety of types of businesses and workers in these categories. Data are not included here for workers in the industrial group because of the small number of responses received. Table IV.C.1 identifies the number of workers in each business activity.

SOURCE: Recht Hausrath & Associates

D.3 HOUSING MARKET IMPACTS

D.3.1 Housing Market Impacts in San Francisco

This section responds to comments regarding the EIR's analysis and discussion of the implications of C-3 District growth for San Francisco's housing market. (Section D.3.2 following responds to comments on regional housing market impacts.)

The focus of this section is on citywide housing market implications and effects on residents as a consequence of the housing choices made by additional C-3 District workers. These could be considered the indirect effects of C-3 District growth on the City's housing market and the housing options of City residents. Many of the same commenters are also concerned about the direct displacement effects of C-3 District growth. For the purposes of these responses, the direct effects occur in the C-3 District and adjacent areas as expansion of the areas of commercial activity results in the loss of housing and the displacement of the residents of that housing. (Section B.4.2. includes the responses to comments on the displacement of downtown residents due to the growth of commercial activity.) The comments addressed here focus on the following issues:

- where and how would future C-3 District employees be housed in San Francisco?

- what would happen to the existing housing stock and to the City's neighborhoods?

- what would happen to existing City residents?

The comments allege that the EIR ignores or "sanitizes" the implications of C-3 District growth for both the City's housing market and the housing options for existing residents. The comments imply that the City's current "housing affordability crisis" is directly attributable to downtown growth.

The Residence Patterns and Housing impact section of the Downtown Plan EIR states that continued employment growth would have impacts on San Francisco's housing market. The text indicates that there would be effects on the prices and rents for housing in San Francisco and discusses the implications of these effects on residents of the City. These impacts are not ignored or concealed and there is no intent on the part of Department of City Planning to downplay or avoid discussion of housing market impacts. In fact, the conclusions agree with several of the comments on the Draft EIR that continued employment growth would result in increased competition for available City housing, that the housing market would be unable to produce an adequate supply of affordable housing in San Francisco, and that the resultant market pressures would have most effect on those with relatively fewer financial resources and less ability to compete for housing (see Downtown Plan EIR, p. IV.D.77-IV.D.81 and Section D.6 below). It cannot be stated, however, that an "affordability crisis" exists in San Francisco because of downtown growth. C-3 District development is only one of several factors contributing to the City's housing market conditions. (Specific comments related to issues of housing affordability and mitigation for the impacts of C-3 District growth are addressed in Sections D.4 and D.5.)

The EIR discussion of the housing market implications of downtown growth is based on analysis of the current citywide and regional housing market context and of the relationship between employment growth and the housing market. The housing market implications of C-3 District growth are not quantified to the degree requested in the comments. This does not mean that the impacts are ignored or minimized. This response clarifies the EIR approach to demonstrate what can and cannot be concluded about the relationship between employment growth and the housing market, presents an expanded version of the EIR conclusions to address specific issues raised in the comments, and discusses the analytical and theoretical difficulties in providing the data and forecasts requested by the commenters.

Overview of Housing Market Context and Basis for Assessing Housing Market Impacts

Housing Market Context. Since the early 1970's, housing prices and rents have increased dramatically in San Francisco and throughout the Bay Area. Demand for housing has been strong and supply has not kept pace with demand in many areas. In addition, in the early 1980's there were major changes in financial markets which substantially increased the cost of money for housing. Many different factors contribute to the current housing market situation. These include changing lifestyles, changing demographic and household characteristics, changing household incomes, employment growth, the attractiveness of the Bay Area as a place to live, the availability and cost of financing, the attractiveness of real estate as an investment, the implications of Proposition 13 on the costs of developing new housing, no-growth policies in some communities, and the increasing scarcity of land in other communities.

As a result of all of these factors, many households now allocate a greater share of their financial resources to housing, and the housing choices available at various prices and rents have changed. Many people cannot now afford the housing they prefer and many are not housed at the standard that, until recently, they had come to expect. For example, many live with smaller units, fewer rooms, or in different neighborhoods than they would like.

There is strong demand for San Francisco housing relative to the supply of housing in the City. Many households currently living elsewhere in the Bay Area have preferences for San Francisco housing. Those who move into the region also include many households with preferences for City housing, including, for example, immigrants/refugees for whom San Francisco is a traditional entry point to the U.S. This competitive market situation is expected to continue to exist in San Francisco for many reasons in addition to employment growth.

These market pressures explain the high housing prices and rents in the City. Despite rising housing prices and rents, however, the private market continues to be unable to produce enough new housing to relieve competitive pressures. Although the difficulties in producing affordable housing arise from many factors and exist throughout the region, it is, relatively speaking, more costly to produce housing in San Francisco than in many other parts of the region. The high land costs and the lack of vacant land in San Francisco (as well as the resultant need to build at a higher density with associated higher construction costs) are responsible for the relatively high threshold level of prices and rents needed to encourage residential development in the City. There is particular difficulty in producing rental housing, since residential rents, unlike for-sale housing prices, have not kept pace with rising construction and land costs or with inflation.

The housing market context in San Francisco is also defined by the characteristics of the existing housing stock. The City has many older neighborhoods that, as tastes and lifestyles change, have become more desirable. The City's housing supply also includes a relatively large stock of small rental units in old buildings that provide one of the few sources of housing for low income households.

The Relationship Between Employment Growth and the Housing Market. There are many factors affecting changes both in the demand for housing and in what households pay for housing. These include demographic and income characteristics (the age distribution of the population, household size, household lifecycle), mobility and migration, general economic conditions, lifestyle preferences, and employment growth. The list above is not exhaustive. The system of interactions affecting any one housing market (such as San Francisco's) is complex. Moreover, San Francisco is one part of a larger regional housing market in which people choose places to live and work among locations throughout the region. This further complicates the economic analysis of San Francisco's housing market.

There is a relationship between employment growth (such as that accommodated in the C-3 District as a consequence of local planning and zoning policies) and the local housing market. Appendix I in the EIR begins with a theoretical description of the relationship between employment growth and housing markets (pp. I.1-I.8). Although the relationship can be described, it cannot be quantified. It is not possible to isolate and measure the effect of only one of the many factors (described above) affecting the City's housing market. While it is true that the recent period of dramatic change in the housing market has coincided with a boom in downtown San Francisco development, this does not establish a direct causal relationship.

Many of the comments related to citywide housing market impacts request that more data and forecasts be provided to quantify the housing market impacts of C-3 District growth. In particular, the comments request forecasts of: future housing prices and rents, the number of units upgraded and replaced, the increase in the percentage of household income spent on housing, the future incomes necessary to purchase housing, and the number of low and moderate income households displaced. They imply that all of these changes can be quantified for the future on the basis of alternative levels of employment growth.

Since the separate contribution of employment growth to these changes cannot be quantified from past information, it cannot be forecast for the future, even holding the contribution of other potential factors constant. Moreover, all of the contributory factors will not remain constant and will have more of an effect on future housing market conditions than will employment growth. Forecasts of future housing market conditions [prices/

rents, percentage of income spent on housing, housing production by size and type (rental or for-sale) of unit] on the basis of all of the contributory factors do not exist and would be very difficult to prepare with a reasonable degree of accuracy.

Role of Residence Patterns Forecasts in Analyzing Future Housing Market Conditions. Some information can be quantified. The residence patterns forecasts provide a means of describing the most likely outcome for employment growth and housing. These forecasts, moreover, are cumulative--incorporating both C-3 District and non-C-3 District employment growth as well as potential housing supply parameters for each Bay Area county. (Section D.2 of these responses discusses the rationale, methodology, and assumptions of the residence patterns forecasts.) By themselves, residence patterns do not describe impacts on the City's housing market.

The residence patterns forecasts identify the numbers of C-3 District workers expected to live in San Francisco and in the other counties of the region. The forecasts also account for the need to house other future employment growth in the region. Implicit in these forecasts are: consider ation of the use of the existing stock (how future occupants could differ from current occupants, how the characteristics of the current occupants could change, i.e., more workers, more income), the location and relative price/rent of new housing, the household incomes and ability of C-3 District workers to pay for housing, the adaptations households might make to secure housing, and the on-going re-shuffling of new and old residents and workers throughout the region, as people move within the region for a variety of reasons.

The residence patterns forecasts enable the analyst to draw conclusions about how C-3 District employment growth would affect likely future housing market conditions. Analysis of the characteristics of future employment growth, of the amount and location of future housing production and existing housing supply (throughout both the City and the region), of the relative level of prices/rents among Bay Area locations and of worker propensities for various residential choices is the basis for forecasting the outcome and also for assessing what adaptations and other changes would occur in the process. The residence patterns forecasts provide a context for assessing the extent to which these adaptations and changes are impacts of growth. The analysis also considers how these changes in housing market conditions would affect various groups of consumers, including how the circumstances of existing residents could change.

Housing Market Impacts in San Francisco

The Implications of Increased Demand for San Francisco Housing. The following discussion highlights the conclusions in the EIR relevant to the questions about housing market impacts raised in the comments. (See also pp. IV.D.71-IV.D.82 and the EIR text additions in Section D.6.) The conclusions illustrate the complicated series of interactions between employment growth and the housing market impacts of that growth. They also illustrate the various accommodations or changes in conditions which can be identified, but, as noted above, cannot be solely attributed to employment growth.

With continued employment growth there would be additional demand for San Francisco housing from people with strong preferences for living in the City and with the ability and willingness to pay for housing. This demand would be added to an otherwise competitive market with relatively high prices/rents.

At the same time, additional housing would be produced in San Francisco. While there would be more additional supply relative to additional demand in the future than in the past, San Francisco is unlikely to accommodate all of the households that would otherwise choose to live in the City. This is explained by the City's role as the employment center for a large region, by the limited land availability in the City, and by the higher costs of producing housing in San Francisco. (See Sections D.2.2 and D.2.9 for justification of the conclusion that there is likely to be more housing added relative to employment growth in San Francisco in the future than in the past.)

Downtown employment and employment growth will continue to be among the factors supporting a competitive housing market. It is unlikely that changes in housing demand due to C-3 District growth alone would be the cause of significant changes in prices and rents. Future housing prices and rents will depend on other factors besides C-3 District employment growth, such as interest rates and local land use policies and development costs throughout the region.

Although not all of the additional C-3 District workers would live in San Francisco, some would choose to do so. Many of the additional workers would be willing to pay higher prices for City housing to save on the time and cost of commuting from a more outlying location. Many of the additional workers preferring to live in San Francisco would be able to pay more for housing than some current residents.

Those workers who choose to live in the City would compete for the existing supply of housing. Those with greater financial resources would support the production of housing by the private market. Those with less financial resources would add to the competition for the stock of housing available at prices and rents below those needed for new construction. To the extent that prices/rents remain below this threshold, the supply of these types of units would not be expanded. Instead, prices/rents of existing units would be somewhat higher, occupancies would be higher (more people per unit because children live at home longer, more people live together, etc., and/or lower vacancies), and there would be pressures to upgrade the existing stock.

Competitive market pressures would be greatest for rental and for-sale housing priced below average, particularly for units below the threshold prices/rents for new housing production. Increased competition in an already competitive market, the relatively high threshold for new construction, and the large pool of consumers (not just C-3 workers) with preferences for the older housing stock in San Francisco, all would result in more housing consumers seeking these types of units. Housing which could be secured initially at below average prices and upgraded with relatively small financial investment would be particularly attractive in this market. While this type of upgrading would increase the supply of units in one price/rent range (thereby releasing competitive pressures in this segment of the market), it would reduce the supply in the lower price/rent ranges (thereby increasing the competition for remaining lower cost units in those categories). At the same time, increases in the number of consumers demanding housing in the lower price/rent ranges would further increase the competition for the available supply of units of these types.

Higher prices and rents, particularly for the relatively lower cost housing in older neighborhoods, would have various implications over time, for those in the housing market as well as for other existing residents. Some people would decide not to move into the City and some existing residents would move out of the City for more acceptable housing elsewhere. Many individuals would continue to live in San Francisco and pay higher prices/rents for the same City housing. Still others, those unable or unwilling to pay more, would accept City housing which does not fully meet their preferences or needs. And finally, owners of existing units would benefit to the extent that their housing appreciates. It is not possible to quantify how many households would be affected in each of these ways.

This scenario implies that housing affordability will continue to be a problem for many of the City's households. The additional demand due to C-3 District employment growth would add to a future housing market situation in which many households, particularly those with incomes below the threshold needed to support new production, are expected to be paying a larger percentage of their income for housing or accepting less housing services than in the past.

Generally, those households with fewer financial resources available to pay for housing would make the most sacrifices in adapting to more competitive market conditions. They have less ability to compete for housing and fewer housing options. San Francisco currently has and will continue to attract a large number of persons that will be faced with these difficulties in securing housing. They include renters, younger persons, those holding entry level jobs, the elderly and others on fixed incomes, newly-arrived immigrants as well as other poor and unemployed persons.*

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*This paragraph identifies the types of households which are likely to make the most sacrifices in adapting to more competitive housing market conditions. The previous paragraphs explain the types of adaptations which they would make. They also explain that C-3 District growth is only one of the many factors affecting the City's housing market and the need for changes in housing conditions for City residents. As explained above, some people would pay more for the same quality housing, others may end up with lower quality housing, some would decide to move out of the City, others would decide not to move in; and many would allocate a larger share of their resources for housing. The adaptations to changing housing market conditions will vary among households. This paragraph is not meant to imply that those with lower incomes would necessarily "be pushed out of their homes and end up on the streets" as suggested by one commenter. The effects of downtown growth on the City's homeless population are more an issue of the potential direct displacement by downtown development of persons residing in residential hotels or apartments in the downtown area, than one of the indirect effects of C-3 District workers adding competition to the City's housing market. The potential for direct displacement is discussed in the responses to comments in Section B.4.2.

Displacement and Gentrification. The description of housing impacts above and in the EIR text does not use the term "displacement." The reason is that there could be confusion about the meaning of the term such that it would imply different effects to different readers. Instead, the specific ways in which households could be affected are described, some of which might be considered displacement and others of which would not.

For example, when faced with higher housing prices/rents, households which end up with housing which does not meet their preferences or needs might be considered to be "displaced". While displacement might be used to refer to households with no choice but to occupy housing that is below the standard that they would otherwise occupy, displacement might not seem appropriate for those who are similarly housed, but through choices of their own. In many situations, it could be difficult to determine whether a household had no choice but to accept lower quality housing or whether they chose to forego other expenditures, in order to allocate more resources for housing. Confusion could also arise because displacement may mean eviction to some people but not to others. There could also be questions about whether it means displaced from San Francisco, displaced from housing at a standard that one would otherwise be able to occupy, or displaced from housing that one previously occupied. The fact that the term "displacement" is not used is not meant to conceal or sanitize the importance of housing impacts.

The term "displacement" is used in these responses in the context of the direct real estate market effects of development within the C-3 District and the spillover effects in adjacent areas. This is different from the indirect effects attributable to the residential location decisions of C-3 District workers. Displacement is used in these responses to describe the situation in which economic growth pressures combine with land use and zoning policy to favor the demolition or conversion of existing space to make way for higher-rent-paying uses. In the process existing businesses or residents are displaced. Section B.4.1 discusses the displacement impacts of C-3 District growth on businesses and employment in the C-3 District and adjacent areas. Section B.4.2 discusses the impacts of C-3 District growth on the loss of the downtown housing stock and the direct displacement of existing residents.

Similarly, the comments note that the term "gentrification" was not used in the EIR discussion of housing market impacts. The process of upgrading housing that can be purchased for lower than average prices is a first step in the process of neighborhood change known as gentrification, and is described above in the summary of housing market impacts. This type of impact is not ignored and is described in the EIR (pp. IV.D.80-IV.D.81). A sentence should be added to the Draft EIR text to clarify this description. (See text additions at the end of this response, Section D.6.)

In the comments, gentrification and displacement are sometimes used interchangeably. The EIR analysis and discussion had to be more precise, so terms that could be interpreted in a variety of ways were avoided.

Comparison of Different Growth Scenarios. In general, the implications summarized above would apply under the Downtown Plan and all Alternatives. There would be some differences in the degree of impact. Among other things, San Francisco housing market conditions would be affected by both the amount of employment growth in the C-3 District and the rest of the City, and the amount of housing produced in the City. Different C-3 District policies would result in different levels of employment growth in the C-3 District and elsewhere in the City, as well as different levels of housing production throughout the City.

In combination, the relatively high level of employment growth forecast for the C-3 District under Alternative 1 and the relatively low levels of housing production (no housing requirement such as an OHPP was assumed for Alternative 1) would result in the most competition for City housing from C-3 District workers and greatest degree of impact as outlined above, compared to the Plan (without the OHPP) and other Alternatives. Alternative 4, which would result in the lowest C-3 District employment growth and the highest production of housing, would result in the smallest increase in competition and the smallest degree of impact, compared to the Plan (without the OHPP) and other Alternatives.* The effects of the proposed Plan would be in the middle of this range. With the OHPP as a mitigation measure, the effects of the Plan would be closer to Alternative 4.

To the extent that employment growth that would otherwise occur in the C-3 District occurred in other City locations instead under the lower C-3 District growth scenarios, then the differences among Alternatives would be less, when viewed from a citywide perspective. In any case, Alternative 4 would also have the least impact (some increased competition for San Francisco housing, but less than the other scenarios) from a citywide perspective. This is primarily because the more costly housing requirement of Alternative 4 is specified to apply citywide. This has the effects of slowing the rate of employment growth in the C-3 District, reducing the amount of employment growth that could otherwise shift to other locations in the City, and providing some additional housing supply to the extent that employment does shift. The Alternatives section of the EIR describes the different housing supply and residence patterns forecasts for the Plan and Alternatives and compares the San Francisco housing market implications. (See pp. VII.D.1-VII.D.13.)

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*The production of new housing in the C-3 District under Alternative 4 was estimated and analyzed for this EIR. The relatively large amount of new housing likely to be produced in the proposed mixed residential-commercial area west of Yerba Buena Center is one of the reasons for the conclusion that, compared to the Plan and other Alternatives, Alternative 4 would result in the smallest degree of impact, as described above. Section VII.D of the EIR compares the housing production policies and supply forecasts for the Plan and Alternatives (see pp. VII.D.-VII.D.4). The Consultant's Report presents forecasts of housing production in the C-3 District by subarea for the five Alternatives (see pp. V.B.57-V.B.68, especially Table V.B.9). Alternative 4 would result in the most additional C-3 District housing, 60 percent of which (2000 units) would be in Subareas 3, 4 and 5; much of this would be south of Market Street.

No employment growth or a more limited growth scenario compared to the Plan and Alternatives analyzed in the EIR would not be the end of the competitive pressures in San Francisco's housing market which result in higher prices/rents, and in gentrification. The market interactions described above would continue to occur because of the strong demand for housing in San Francisco from people who already work in the City but live elsewhere, and from other demand groups. Depending on the characteristics of this demand, many of the same adaptations and impacts would continue to occur.

Requests for Data and Forecasts About Neighborhood Change

Some comments related to housing market impacts request that more data and forecasts be provided to quantify the impacts for San Francisco neighborhoods. In particular, the comments request forecasts of: where worker households would live on a neighborhood level, the percentage increase in households by neighborhood, where increased residential densities are expected, and the areas of the City and the resident groups most susceptible to gentrification.

Some of this information can be provided, but on a more generalized basis than requested. The EIR presents forecasts of the number of C-3 District workers (not households) living in each of the four areas into which the City has been divided (Table IV.D.18, pp. IV.D.69-IV.D.70). This is the most disaggregated level possible for the forecasts.

The greatest absolute change between 1984 and 2000 would be in the southwest part of the City (including the Central, Ingleside, Sunset and Buena Vista neighborhoods), primarily reflecting the fact that this is a large area including the largest share of existing housing among the four City study areas. It should be noted that the forecasts indicate that the percentage of C-3 District workers residing in the southwest portion of the City would decline over time. In the future, relatively more C-3 District workers are expected to choose housing in the eastern portions of the City, where most of the new housing is projected to be supplied.

The greatest percentage change between 1984 and 2000 would be in the northeast (25 percent increase) and southeast (20 percent increase) parts of the City (the Potrero, South Bayshore, South Central, Bernal Heights, Mission, Northeast and Downtown districts, including Mission Bay). These forecasts largely reflect the distribution of the projected supply of new housing as set forth in the City's Residence Element. Therefore, although some C-3 District workers would prefer the older housing near Chinatown, North Beach, Telegraph Hill and Russian Hill, the largest numbers (of those in the eastern parts of the City) would probably choose to live in the new housing supplied in and around the downtown, such as in that expected in the Van Ness Corridor, Rincon Hill, Rincon Point-South Beach, and Mission Bay.

The forecasts are presented in terms of workers, not households. The number of households would be less than the number of workers (since on average, C-3 District worker households in San Francisco have more than one C-3 District worker). Further, the number of additional households in each part of the City would be less, to the extent that some of the increase in workers is attributable to more workers per household from among those housed in the existing housing stock.* For example, one reason for the relatively large increase in workers forecast for the southwest part of the City is that, of the four divisions of the City, this area contains the largest number of existing households and, thus, the most potential for accommodating C-3 District workers through increases in workers per household. [Increases in workers per household from among the population in the existing housing stock represent: (1) more workers in current City households that continue to live in San Francisco (i.e., people presently not employed, such as college students or women, becoming employed and remaining in their existing City housing), (2) new City households with more workers than the ones they replace, and (3) new City households with workers replacing households without workers. The latter two changes could include the effects of gentrification.]

These forecasts were prepared on the basis of future housing supply parameters defined in the City's Residence Element. They account for future employment growth elsewhere in the City; not all of the estimated production during the forecast period is allocated only to C-3 District workers. (See Section D.2.5 for a more detailed discussion.) The important point from the perspective of housing market impacts is that the EIR forecasts assume essentially the same future housing supply potentials that are presented in the City's Residence Element. For example, the forecasts do not imply higher density increases in existing neighborhoods or more infill than the Residence Element has identified could be supported. Debate over these assumptions is more appropriate in consideration of the Residence Element policies.

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*A comment acknowledges that some of the additional C-3 District workers living in San Francisco will not reside in additional City households but will reflect a higher overall average number of workers per household. However, it goes on to state that the EIR estimate is difficult to accept. The EIR explains that "from the forecasts for the Downtown Plan, it can be estimated that about 55 percent of the increase in employed residents citywide from 1980 to 2000 could occur because of increases in workers per household assuming the existing housing stock and about 45 percent because of housing growth and the net addition of households in the City" (p. IV.D.76 and note 57). These estimates reflect a larger increase in employed residents because of the addition of households than occurred during the 1970s. Of the growth of employed residents of the City from 1970 to 1980, about 18 percent represent additional households and about 82 percent reflect increases in the overall average number of workers per household.

The last subsection of the response in section D.3.2.3 provides discussion of all of the reasons why the average number of workers per household changes over time.

The requests for data and forecasts of the number of residents "displaced" and of the number of housing units upgraded or replaced cannot be similarly answered. Displacement, upgrading, and replacement will occur, but not solely as a consequence of the growth of economic activity in the C-3 District. The direct displacement of lower income households in the C-3 District and adjacent areas is the impact most readily isolated. This impact is discussed in Section B.4.2 of these responses. As noted above, there are many other circumstances under which lower income households in San Francisco might move. The moves that are the consequence of the gentrification process (when higher income households replace lower income households in a neighborhood) could partly be attributed to the increase in demand for San Francisco housing from those with relatively higher incomes than existing residents, as a consequence of C-3 District growth. Because of the other circumstances and the many adjustments that occur as workers decide to choose new housing (adjustments in expectations for housing standards, workers per household, share of income to devote to housing, etc.), it is not possible to establish a direct quantitative link between additional C-3 District workers and existing households displaced. Similar reasoning applies to the problem of estimating the number of housing units upgraded or replaced.

While the neighborhoods likely to experience the most pressure for either upgrading/gentrification or replacement of housing could be identified based on general assumptions about the characteristics that define such neighborhoods (older housing at below average prices which could appreciate in value with upgrading, larger homes that could be subdivided to provide the owner-occupant with income-producing units, neighborhood character and identity, location, etc.), it would not be appropriate to assign all of this pressure to increased C-3 District employment. Even without C-3 District employment growth, such pressures would exist. To the extent that, comparing the 1984-2000 forecast to the recent past, there would be more new housing produced in San Francisco relative to the amount of C-3 District job growth (due to both greater rates of housing production and slower rates of employment growth under the Downtown Plan forecast than in the past), the future pressures for upgrading/gentrification and replacement of existing housing that might be attributed to C-3 District growth would be less than in the recent past.

D.3.2 Regional Housing Market Implications of C-3 District Growth

This response answers comments about the regional housing market implications of C-3 District growth. It addresses questions about the regional context for impact assessment, requests for more information about regional impacts, and broader comments about San Francisco's role within the region and regional development patterns.

This response elaborates on the earlier response (see Section B.2) to questions about the EIR's overall approach to regional impact assessment and the implications of C-3 District growth for overall regional growth patterns. This response focuses on the regional housing market.

D.3.2.1 Regional Context for Impact Assessment

As background for this response, the reader should understand that the assessment of the housing impacts of C-3 District growth first involved the forecasting of future residence patterns of C-3 District workers. Having identified where workers are likely to live, consideration was then given to the housing market implications of this future pattern.

The EIR focuses on the impacts of C-3 District growth. The forecasts of future residence patterns and the assessment of housing impacts were prepared within the context of expected future conditions throughout the region. The approach for forecasting and analyzing the impacts of the residence patterns of C-3 District workers was to consider C-3 District growth within the context of forecasts and assumptions about how other factors besides C-3 District employment are likely to change over time. These include employment, housing, labor force, transportation, demographic, and lifestyle factors. All of these factors affect overall regional growth and the locational patterns of where people work, where they live, and how they commute from home to work.

Of importance to regional housing impacts is the future context of employment, housing, and labor force throughout the region. For this EIR, a consistent set of forecasts of jobs, housing, and workers to the year 2000 described the regional context. ABAG's regional forecasts of future housing supply and employment for counties outside San Francisco were combined with estimates for San Francisco to develop regionwide totals for the year 2000 and to describe the amount and distribution of regional housing and employment growth during the 1980's and 1990's. Regional forecasts of labor force growth were prepared to be consistent with the employment and housing forecasts.

Many comments express concern about the future regional context and the extent to which regional growth was incorporated into the EIR analysis of housing impacts. The subsections which follow respond to questions about regional employment growth and regional housing supply, and about how the two were considered in forecasting residence patterns and assessing housing impacts.

Cumulative Perspective on Regional Employment Growth. Other growth expected throughout the region was included in the EIR analysis of the housing impacts of C-3 District growth. The approach, however, is different from that called for in several of the comments.

The comments suggest that the only way to assess the impacts of growth from the broader "cumulative" perspective is to analyze all other development in the rest of the City and the region that presumably would contribute to the future context. It is not possible simply to define the regional context for impact assessment as the sum total of all plans and projects currently under construction and under review in the region, however. First, such a tabulation would not be a forecast associated with any particular analytical time period; different localities would have shorter- or longer-term "lists", with no common end-point.* Second, some proposals that the comments suggest should be considered (i.e., the Santa Fe-Berkeley waterfront proposal) are as yet undefined, existing only as a range of planning alternatives. Finally, although some project information (square feet of space and potential employment) provides an indication of the general magnitude of development activity expected, the analysis does not exist that would enable conversion of this information to a consistent set of regional residence patterns or commute patterns that could be used to assess housing impacts.

Therefore, the approach in the EIR was to use employment forecasts for each of the various counties of the region to describe the growth that is expected to occur by the year 2000. These forecasts incorporate the plans and projects that are expected to be completed by 2000. They also include future employment in projects as yet not conceived or proposed. Further, they account for the net result of decreases in employment as firms go out of business or cut back on operations and increases in employment accommodated by new development. They also account for changes in the use of existing space. Therefore, the forecasts are more comprehensive than estimates based only on information from present projects and proposals.

The approach used in the EIR provides a cumulative context that is consistent with the time frame for the EIR analysis (1981-2000) while avoiding the uncertainties and inconsistencies in terms of amount, type, and timing of development, inherent in tabulating a list of potential projects and plans. For example, projects in one part of the region might accommodate 20 years of growth while those for another area might only extend over a 10 year absorption period. Further, the earlier development of some projects might mean that the development of other projects is delayed.

This approach also provides a cumulative employment context that is consistent with forecasts of expected future housing and labor force throughout the region. To assess housing impacts, it is important that expected growth of employment be analyzed within the context of expected growth of the housing supply and of the region's workforce for consistent time periods. Deriving growth from a list of projects would not assure that the time frame for the commercial and industrial projects would be consistent with that for the residential projects or with the time frame of available forecasts of housing and employed population.

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*An example of the fact that different localities would have shorter-or longer-term "lists" of projects with no common end-point is provided by information for downtown Oakland. The following was presented at a recent community workshop in Oakland's Central District Development Program: "There is approximately 13 million sq. ft. of office space now proposed for downtown.... Oakland's past experience indicates that new office users only fill between 200,000-400,000 sq. ft. per year. At this rate, it would take 33 to 65 years to fully occupy the proposed buildings." (Oakland Central District Development Program Community Workshop Handout, August 2, 1984, JA/WRT Consultants). Given the longer term nature of Oakland's list of proposals, for example, it would not be appropriate to include all of this growth within the future regional context for impact assessment over the period 1984-2000.

Cumulative Perspective on Regional Housing Supply and Labor Force. In addition to regional employment growth, the future regional context included the future housing supply. Forecasts of the regional housing supply incorporate housing market factors as well as land use policies and development plans from all Bay Area communities.

One comment asks about the plans and policies of other counties outside of San Francisco to produce the housing assumed in this EIR. For the rest of the region, the ABAG forecasts of future housing supply were used. The following points (from Projections '83) indicate how each community's ability to supply housing was taken into account in the ABAG forecasts:

- "The development policies of the cities and counties are assumed to have a major effect on the type and extent of growth within the region." (p. 13)
- "Projections '83 assumes direct use of the local policy data for the period 1980-1990. In other words, current local policies concerning the amount of land with services available during this period were assumed to remain in effect until at least 1990. After 1990, current policies were assumed to continue to remain in effect in most areas, as the supply of land by type and intensity of use was sufficient to accommodate growth projected for these areas." (p. 17)
- "The projections for the long term, 1990-2000, assume that essential public services and infrastructure will be available to accommodate new development." (p. 17)

The employed population that could be accommodated in the future housing stock was another factor defining the regional context. The additional C-3 District workers are part of this future population. As explained in the EIR, the future size and distribution of the labor force throughout the region (the residence pattern for the region's employed population) depends not only on the future number of housing units, but also on the average number of workers per housing unit in both the new housing and the existing housing stock. Expected trends in workers per household were considered along with the housing supply forecasts in estimating the future context for employed residents throughout the region.

The average number of workers per household is expected to increase during the EIR forecast period (as forecast by ABAG and confirmed by other experts). The future rate of increase is forecast to decline over time however. Labor force participation is expected to continue to increase, but at lower rates of growth than occurred in the past ten years. Most of the "baby boom" generation have already entered the labor force, and the overall population is aging, so that those over 65 years of age will represent an increasingly larger share of the population in the future. Although the labor force participation of women has already increased substantially, additional growth is forecast for the future. In addition to labor force participation, increases in workers per household will also reflect changes in how workers group into households. These increases will reflect such factors as adaptations due to housing costs and changes in lifestyle preferences. (There is more discussion later in this response of all of the factors contributing to changes in workers per household.)

Increases in the average number of workers per household will occur gradually over time. Some of the increase will reflect changes made by persons who presently live in the region (e.g., more women will work, more workers will live together). The other changes contributing to the overall increase will occur because those households who move into the region over time will, on the average, have more workers per household than the households they replace or than the average pattern for the rest of the households in the region.

As a consequence of the expected increases in labor force participation and in the average number of workers per household, increases in the employed population will occur from among the households living in the existing housing stock as well as through the addition of households because of housing development. Thus, all of the additional jobs in the region between 1984 and 2000 will not be filled by persons housed in additional dwelling units. As a consequence, the residential distribution (among counties) of the region's future labor force is determined by the location of the existing supply of housing as well as by the location of expected future housing development.

Cumulative Perspective on Residence Patterns and Housing Impacts. The residence patterns of C-3 District workers and the associated housing market implications were derived within the cumulative context described above. For this analysis, two aspects of the cumulative perspective are relevant.

One is the perspective of total employment, labor force, and housing in the region. The EIR analysis reflects the fact that the total number of workers needed to be housed in the region in the future must be equal to the total number of jobs that are forecast (after accounting for the relatively small number of people who either commute to jobs outside the region or commute to Bay Area jobs from outside the region). This total amount of future employment includes C-3 District growth and all of the employment growth forecast for other parts of the region.

The second perspective is the implications of the distribution within the region of employment growth and the growth of the employed population. The future locational distribution of all jobs relative to the distribution of all persons who work will affect the abilities of businesses to compete for workers residing in various counties, the competition that workers will face for housing in various locations, and the resultant commute patterns.

The EIR did not analyze the impacts of all growth within the region. It analyzed the implications of C-3 District growth within a consistent, cumulative context of all other growth and activity expected throughout the region. In other words, within the context of the future region-wide pattern, the EIR focuses on the role, the relative importance, and the implications of a part of the total expected growth--that part represented by growth in the C-3 District.

This approach was not understood by some of the commenters. To clarify, the EIR does not "presume that all future Bay Area housing capacity" would be available to accommodate C-3 District growth. The analysis does account for all other regional growth in considering where C-3 District workers would reside. The EIR analysis was sensitive to the future growth of employment elsewhere in the region and to the ability of the housing supply to accommodate this growth.

The table on the next page (Table C&R D.4) compares C-3 District workers expected to reside in each of the counties of the region in the year 2000 to the total employed population forecast for each county in 2000. It also provides a similar comparison for the situation in 1980/81.

The table shows forecasts of the region's employed population for 2000. The EIR scenario was developed prior to he release of ABAG's Projections '83. Although the estimates are very similar, the EIR figures are slightly higher than the ABAG forecasts, consistent with the EIR's higher employment forecasts for the C-3 District. Both forecasts are shown in the table to indicate that the percentages reflecting the relative importance of C-3 District workers among all employed residents in each county are nearly the same, no matter which forecast is used.

As shown in Table C&R D.4, C-3 District workers represent a relatively large percentage of San Francisco's employed population and relatively smaller shares of the employed population in other counties of the region. In 2000 as compared to 1980/81, C-3 District workers would represent similar proportions, with small increases.

Because housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the C-3 District percentages of the region's employed population in each county would not be large indicates that C-3 District workers would not require much larger shares of the region's housing in 2000 than they do now. In other words, a housing stock consistent with local policies could accommodate both future C-3 District workers and future workers elsewhere in the region. This accommodation depends on adaptations in the housing market which have implications for both worker households and other residents. This table and the associated discussion are included in the EIR text additions in Section D.6 below.

D.3.2.2 Requests for More Detail about Residence Patterns

The City of Berkeley asks how many C-3 District employees are expected to be residing in their city in 1990 and 2000. They also ask about the demographic and household characteristics of those workers.

TABLE C&R D.4: C-3 DISTRICT WORKERS COMPARED TO EMPLOYED POPULATION BY COUNTY, 1980/81 and 2000

	TOTAL, 1980/81		TOTAL, 2000			For Each County, C-3 District Workers As A Percent of Total Employed Residents	For Each County, C-3 District Workers As A Percent Of Total Employed Residents, 2000	
				Employed Residents				
County	C-3 District Workers (1981) By Place of Residence	Employed Residents (1980 Census)	C-3 District Workers By Place of Residence	ABAG Forecast	EIR Scenario	1980/81	ABAG Forecast	EIR Scenario
San Francisco	153,700	342,500	189,000	404,000	398,000	44.9%	46.8%	47.5%
Alameda	34,400	514,700	55,000	694,000	700,000	6.7%	7.9%	7.8%
Contra Costa	29,100	305,300	47,000	473,000	460,000	9.5%	10.1%	10.3%
Solano/Napa	2,900	133,300	8,000	240,000	255,000	2.2%	3.3%	3.1%
San Mateo	30,600	313,500	45,000	391,000	405,000	9.8%	11.4%	11.0%
Santa Clara	1,800	661,100	3,000	935,000	950,000	0.3%	0.3%	0.3%
Marin	16,000	116,800	26,000	160,000	170,000	13.7%	16.1%	15.2%
Sonoma	1,800	130,100	3,000	233,000	250,000	1.4%	1.5%	1.4%
TOTAL	270,300	2,517,300	376,000	3,530,000	3,588,000	10.7%	10.7%	10.5%

NOTE: This table presents total C-3 District workers and the total employed population in the region in 1980/81 and in 2000 (not just the C-3 District workers or the employed residents added between 1980/81 and 2000). The numbers of C-3 District workers living throughout the region in 1981 and the forecasts of future residence patterns in 2000 are those developed for this EIR. The small number of workers who would live outside the region are not shown here. The 1980 data for the employed population in the region are from the U.S. Census. There are two forecasts of the region's employed population in 2000. The ABAG forecast is from Projections '83. The EIR scenario was developed for the EIR analysis prior to the release of ABAG's Projections '83 report. Although the estimates are very similar, the EIR figures are slightly higher than the ABAG forecasts, consistent with the EIR's higher employment forecasts for the C-3 District. Both forecasts are shown above to indicate that the percentages reflecting the relative importance of C-3 District workers among all employed residents in each county are nearly the same no matter which forecast is used. As for the base year percentages, the differences in base years (1980 and 1981) introduce only minor inconsistencies in the comparison.

SOURCE: Recht Hausrath & Associates

Forecasts of the future residence patterns of C-3 District workers among the cities of the region have not been prepared. That would be a large effort since there are over 100 jurisdictions to consider. It would also be a difficult task analytically since very little information exists to identify the current distribution of C-3 District workers among cities or to identify how that pattern may be changing. The Downtown EIR Employee Survey which was used to document current residence patterns was designed to provide adequate data according to county of residence and by commute corridor, not at the level of individual cities.

Since several comments in addition to Berkeley's ask about housing impacts in the East Bay, the available survey data and Census data have been analyzed to provide some additional information about the residence patterns of C-3 District workers living in the East Bay. This information is summarized in Table C&R D.5.

The data in Table C&R D.5 provides estimates for subdivisions of Alameda and Contra Costa Counties. It also shows percentages which compare C-3 District workers to the total employed population in each area. These percentages indicate the relative importance of C-3 District workers among all workers residing in an area. Comparisons of the percentages for different parts of the East Bay indicate that this relative importance varies among areas. The City of Berkeley is correct in commenting that the relative importance of C-3 District employment is not uniform throughout the region. Various points derived from the data in the table relevant to the current situation are summarized below. Then discussion is presented which considers how this pattern might be changing in the future.

For both Alameda and Contra Costa Counties, C-3 District workers represent less than 10 percent of all workers residing there. C-3 District workers are relatively more important in Contra Costa County than in Alameda County. In both counties, C-3 District workers are relatively more important in the areas on the western side of the East Bay hills than in areas on the eastern side.

The residence patterns described by the data indicate that while location and proximity to downtown San Francisco are factors in determining where downtown workers live, they are not the only factors. Other factors include proximity to other employment, transportation accessibility, the characteristics of the housing relative to the preferences of those holding C-3 District jobs, and the characteristics of the population relative to the types of C-3 District jobs. Because of the combination of all these factors, C-3 District workers represent a larger percentage of the employed population in eastern Contra Costa County than in western Alameda County although the latter is generally closer to downtown San Francisco. (See Appendix I and particularly p. I.10 and pp. I.21-I.24, where the importance of all of these factors is discussed and where an explanation is provided about how these factors were incorporated into the EIR analysis and residence patterns forecasts.)

TABLE C&R D.5: RESIDENCE PATTERNS OF C-3 DISTRICT WORKERS RESIDING IN ALAMEDA AND CONTRA COSTA COUNTIES

	Estimated C-3 District Workers By Place Of Residence, 1981 (a)	Employed Population, 1980	C-3 District Workers As A Percentage Of Employed Population, 1980/81
Alameda County	32,780	514,730	6.4%
Western Portions (b)	30,750	429,270	7.2%
Eastern Portions (b)	2,030	85,460	2.4%
Contra Costa County	27,760	305,310	9.1%
Western Portions (b)	7,440	61,900	12.0%
Eastern Portions (b)	20,320	243,410	8.3%
Selected East Bay Cities (numbers are very approximate) (c)			
Berkeley/Kensington/ Albany (d)	5,000	58,450	8.6%
Oakland/Piedmont/ Emeryville (e)	15,000	147,400	10.2%
Concord/Pleasant Hill	8,100	65,090	12.4%
Walnut Creek	3,300	25,280	13.0%

NOTE: The estimates of C-3 District workers by place of residence are from the Downtown EIR Employee Survey. The employed population figures are from the U.S. Census. The data for portions of counties and for selected cities are only approximate. The relative differences highlighted by the numbers and by the percentages on the far right are more accurate than the absolute values of the figures presented. There are differences in the years which introduce only minor inconsistencies in the comparisons.

(a) The numbers of C-3 District workers shown here are those included in the Downtown EIR Employee Survey (see p. IV.D.2). The estimates for counties differ from those in the previous table because this table does not include construction and building maintenance/security workers who were not covered by the survey. Although the residence patterns of these workers among counties were approximated using the overall average pattern, they cannot be approximated for parts of counties or cities. Since this group represented only about five percent of C-3 District employment in 1981, they would not make a large difference in the totals. To the extent that these workers resided in the parts of the counties shown here, the percentages on the right would be slightly higher.

(b) The eastern and western portions of each county refer to either side of the east bay hills. The survey data was apportioned using the zip codes of survey respondents. The Census data was apportioned according to which cities are located on either side of the hill. The unincorporated areas of counties were included with the eastern areas. While this is generally accurate, it may introduce some small error.

(c) The data for cities are only approximate and the survey and Census figures are not always totally consistent. The survey asked workers where they lived by county and by zip code, not by city. Thus, the zip codes were used to approximate city areas, although data for individual cities could not always be identified. An effort was made to tabulate the Census data (which are published for selected cities) for an area similar to that covered by the survey data. In several cases they are close but not exactly the same.

(d) The survey data includes Berkeley, Kensington, and Albany. The Census data includes Berkeley and Albany. Thus, the percentage is an overestimate.

(e) The survey data includes Oakland, Piedmont, and Emeryville. The Census data includes Oakland and Piedmont. Thus, the percentage is an overestimate.

SOURCE: Recht Hausrath & Associates

In response to Berkeley's question, the data indicate that about 5,000 C-3 District workers live in Berkeley and that they represent about eight percent of Berkeley's total employed population. If these workers grouped into households in a manner similar to the average pattern for all Berkeley households with workers, then the households with C-3 District workers would represent about eight percent of Berkeley's households with workers. They would represent less than eight percent of all of Berkeley's households since that total would also include households without workers (e.g. households of students).

In Alameda County, C-3 District workers are a larger proportion of the total workers in Berkeley and Oakland than in the other cities. C-3 District workers are a larger share of the total working population in Walnut Creek and Concord than in Berkeley and Oakland, however. Although Oakland and Berkeley are closer to San Francisco than Walnut Creek or Concord, the other factors identified above have also influenced this pattern.

As shown in Table C&R D.4 the number of C-3 District workers residing in Alameda and Contra Costa Counties is forecast to increase and the percentage that they will represent of the employed population will increase (to just under eight percent in Alameda County and just over ten percent in Contra Costa County). The overall pattern between the eastern and western portions of these counties is expected to continue, but with some change. The increase in job opportunities due to the growth of employment in the eastern portions of these counties is likely to result in an increase in the percentage of the employed population who will both live and work there. On the other hand, possible extension of BART service in portions of the eastern county areas could enhance San Francisco's attraction there. Overall, for the eastern portions of these counties, the relative importance of C-3 District workers could increase in some areas and decrease in others, so that a stable pattern or small overall increase could occur.

There will probably be more increase in the relative importance of C-3 District workers in the western portions of the East Bay. Accessibility to the C-3 District is good and the area is expected to remain well-served by public transit. There is a large amount of existing housing which could continue to become more attractive relative to other housing for those employed in San Francisco.

D.3.2.3 Requests for More Detail Describing Regional Housing Impacts

Comments on the Draft EIR request quantification of the housing market impacts of C-3 District growth, including requests for quantifications for specific jurisdictions. The information requested cannot be provided in quantitative form for the reasons described below.

Future residence patterns identifying the distribution of C-3 District workers among places of residence throughout the region can be quantified and are presented in the EIR (pp. IV.D.63-IV.D.68). Comparisons between C-3 District workers and the employed populations of other areas can also be quantified as presented earlier in this response. However, it is not possible to quantify the implications of future residence patterns, such as the effects of C-3 District growth on housing prices and rents or the implications of those effects on the share of household income allocated for housing.

The main reason that the housing market impacts of C-3 District employment growth cannot be quantified is that the effects of employment growth cannot be separated from the effects of other factors affecting the region's housing market. Other factors besides employment growth which contribute to changes in housing demand include a variety of demographic, income, lifestyle, lifecycle, and investment reasons. Supply factors which affect the market's ability to respond to changes in demand include local land use policies, financial market factors, and the commitment of government to housing priorities.

In addition to the difficulty of separately identifying the effects of employment growth, C-3 District employment growth represents only part of total regional employment growth. In fact, other employment growth throughout the region will be a more important factor in determining future housing prices/rents, since C-3 District growth is expected to represent about ten percent of total regional employment growth from 1981 to 2000 (about 100,000 additional jobs in the C-3 District compared to about one million additional jobs regionwide). Although the distribution of C-3 District workers will vary among parts of the region, they will continue to represent a relatively small percentage of the total demand for housing in areas outside of San Francisco.

There are no other studies or forecasts which have quantified future regional housing market conditions (prices, rents, percentage of income spent on housing, future characteristics of households by community, etc.) specifying assumptions about employment growth in the region and in downtown San Francisco. If there were such a study, it might be possible to identify how the scenario might differ due to C-3 District growth under the Downtown Plan or the other Alternatives studied, perhaps in quantitative terms. It is not surprising that such work has not been done since it would be a very difficult and costly task.

Thus, the only reasonable approach is to discuss housing impacts in qualitative terms, focusing on how C-3 District growth would affect what would otherwise be expected to occur. This is the perspective of the EIR analysis. The EIR answers the questions: would C-3 District growth make a difference, what kind of difference, and in which types of locations would C-3 District growth make the most difference?

The following responses to specific comments about regional housing impacts expand upon the EIR discussion. At the end of this section of responses, there is a revision to the Draft EIR text to address the issues raised in the comments, see Section D.6.

Regional Housing Market Implications of C-3 District Growth. The EIR explains that "C-3 District job growth would not, by itself, make a noticeable difference in the housing market of the region overall and in the housing markets of counties outside of San Francisco. As a part of total regional employment growth over the next 20 years, however, increases in C-3 District employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a competitive regional housing market with relatively high housing prices and rents." (See pp. IV.D.81- IV.D.82.)

By itself, C-3 District growth would make only a small difference in the region's housing market outside of San Francisco. (The variations among locations are discussed later in this response.) If C-3 District growth did not occur and all other employment growth and housing market factors remained as forecast, it is unlikely that the Bay Area's future housing market would be very different from what would otherwise occur with C-3 District growth.

In response to comments, it is possible to describe in more detail the types of effects that employment growth has on the region's housing market. It is also possible to provide more description about the types of housing problems that will continue to exist in the region in the future and how employment growth would make a difference in this context. It must be recognized, however, that this explanation describes the effects of employment growth generally, not the effects of C-3 District employment growth alone. Moreover, it describes housing problems that are the result of many factors which, to a large extent, already exist within the region and in many other areas throughout the country. In other words, the following subsections describe the future regional housing market context including the effects of C-3 District growth, highlighting the types of differences attributable to that growth. The future context without C-3 District growth would not be very different.

The description which follows is derived from the section in Appendix I which addresses the "Relationship Between Employment Growth And Housing Markets" (pp. I.1-I.8). It also draws from the description of the future regional context in the EIR text (pp. IV.D.58-IV.D.61 and pp. IV.D.77-IV.D.78).

Housing Market Adaptations To Accommodate Increased Demand. All other things being equal, regional employment growth would mean higher prices and rents for housing than would otherwise be the case in the future. It would also mean lower housing services for some of the region's households.* How much difference (higher prices/rents or lower services) depends on other housing market factors besides employment growth (interest rates, land use policies, other demand factors, etc.). It also depends on the amount of employment growth. C-3 District employment growth alone would have less impact than total regional employment growth.

Housing prices and rents will be higher with employment growth than without it because housing market adaptations must occur to accommodate increase demand. Initially, there will be increased competition for the existing stock. This will mean overall higher housing prices and rents which will eventually support additional housing production. Additional housing will be produced when prices/rents rise enough to justify infill housing replacing lower density development, to justify infill housing on sites previously passed over as less desirable for residental development, to justify the upgrading or conversion of structures that were not being used for housing, and to justify the development of housing just beyond the periphery which heretofore had not been feasible because of its distance from the center and the resultant relatively high transportation costs.

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*Higher housing prices/rents and/or lower housing services are defined by what would otherwise exist in the future and not necessarily by the current situation. Such changes over time also depend on other factors besides employment growth.

As new housing is produced, households with higher incomes will be able to secure their preferred housing. They will move into either the new units or into the existing housing vacated by residents who move into the new housing. It is important to understand that the additional households (because of employment growth) do not necessarily end up in the new (additional) housing. The situation is very dynamic; households are constantly moving into, out of, and within the region for a variety of reasons. Thus, there is a constant "re-shuffling" of households among housing units.

Many households will continue to be unable to afford new housing. (The reasons why the market cannot produce more affordable housing are largely independent of employment growth and primarily reflect such factors as interest rates, land use policies, and construction costs.) The squeeze that develops as these households compete for the now inadequate supply of more moderately priced units (inadequate in relation to increased demand) continues until the escalating prices and rents for existing units result in a number of households ultimately choosing the new units, albeit at a greater cost, thus relieving some of the pressure for units at lower prices and rents. This resolution limits the price escalation, but leaves the prices and rents at a higher level than prior to the accommodation of the growth.

Increased demand and the resultant higher prices/rents also create pressures to increase the occupancy of existing housing (thereby also reducing the demand for additional units). This can occur with more persons per household or more households per unit. While these adaptations can occur across many market segments, the pressures to make these changes will be greatest for those subgroups with household incomes substantially below the threshold prices/rents for producing new housing.

For a specific amount of employment growth, such as that forecast for the C-3 District, it is not possible to quantify the extent to which each of these types of adaptations (higher prices/rents and/or lower services for various housing submarkets of units and consumers) would occur. It is certainly not possible to quantify the extent to which C-3 District growth would cause such changes in individual jurisdictions, such as in the City of Berkeley. The reasons are explained above. It is possible to describe the types of changes which would occur (as done herein), to identify those households which are likely to be the most affected (as done below), and to identify the types of communities which are likely to be affected the most (as done later in this subsection).

Market Adaptations Pose More Problems For Those With Less Resources To Pay For Housing. The effects of higher prices/rents or of reduced housing services (less acceptable housing conditions at the same, or higher, price) are generally greatest for subgroups of consumers furthest from the prices/-rent level at which new housing is provided. Households with less financial resources have less potential for increasing their housing expenditures and less locational flexibility. As a result, lower income households are more likely to be faced with a choice between lower quality housing or increased occupancies as the only feasible adaptation to the market "squeeze".

It is also the case that higher overall prices/rents for housing could eventually induce somewhat higher wages and salaries (as employers conclude that such increases would help them compete for labor). As this occurs, those who are employed receive some additional resources to cover higher housing costs. Those who are not employed, particularly those on fixed incomes, would not necessarily receive any additional income. Thus, they would be the ones faced with the greatest difficulties in adapting to the changed housing market conditions.

Many comments ask about the stock of affordable housing and of lower priced rental housing, in particular. This is the type of housing which would come under the most pressure from increased competition, since it is the type that the market cannot produce under current and expected future conditions (with or without C-3 District employment growth). With increased competition (in an otherwise competitive market), there will be strong pressures for higher prices/rents (to some extent limited by the financial resources of the consumers in these submarkets) and for adaptations which result in more intensive use of the existing stock (thereby reducing demand). There will also be pressures to upgrade the existing, older housing stock. This will increase the supply in one price/rent range (thereby releasing competitive pressures) and reduce the supply in a lower price/rent range (thereby increasing competition for the remaining units). As a result of these types of pressures, consumers in the lower income groups served by the housing stock that cannot be expanded will face the greatest difficulties in the housing market.

Impacts Are Not Uniform Throughout the Region. The housing impacts of employment growth are not uniform throughout the region. Generally, there will be more effects in nearby communities than in those further from the location of job growth. The main reason is that, all other things being equal, households have a preference for residential locations closer to places of work and can pay more for housing at a closer location because they are not paying the higher transportation costs they would otherwise pay at a more distant place.

Regarding employment growth in San Francisco's C-3 District, there would be greater effects on housing prices/rents in San Mateo, Marin, Alameda, and Contra Costa Counties than on those of more distant counties. (The most substantial housing market impacts would occur in San Francisco as discussed in the EIR, pp. IV.D.71-IV.D.81. Questions about impacts in San Francisco are addressed in the previous response, Section D.3.1.) These are the counties which now house the majority of C-3 District workers living outside of San Francisco and the ones expected to house the majority of the additional C-3 District workers living outside of San Francisco as a result of C-3 District growth. (The future residence patterns are quantified in the EIR on pp. IV.D.63-IV.D.68.) They are also the counties which overlap most with San Francisco in terms of the housing consumers and submarkets that they serve. Increased competition for San Francisco housing because of employment growth there could result in the shifting of some demand that would otherwise have been met in the City to these nearby counties.

The comparison between the forecasts of future residence patterns of C-3 District workers and the forecasts of the employed population of each county (shown in Table D.3.1) identifies the expected importance of C-3 District workers relative to other workers living in the four counties adjacent to San Francisco. This comparison provides one indication of the relative effect of C-3 District workers on the local housing market; C-3 District workers will have the most effect in Marin County followed by San Mateo County, Contra Costa County, and Alameda County in that order.

There is also variation among areas within counties as to the housing market effects of C-3 District growth, particularly in the East Bay. There would be more effects in communities in the western portions of the East Bay and those to the east of the hills along the BART corridors. Because of the greater potential for expanding the housing supply in the eastern portions of the East Bay, there would be more implications of these housing market effects of C-3 District growth for the existing housing stock and existing residents in the East Bay communities on the west side of the hills.

The commenter who states that there is a housing crisis in the East Bay and that C-3 District growth would only heighten it, is largely correct. That housing crisis already exists and will exist in the future with or without the Downtown Plan or any other alternative Downtown controls. C-3 District growth would add demand pressures that would not otherwise exist, however.

An important aspect of the distribution of the housing impacts of employment growth within the region concerns locations where the existing stock of older housing is likely to come under pressure as the market adapts to increased demand. The most additional pressure of this type is likely to focus on older neighborhoods in closer-in locations which offer housing at prices/rents which are below average levels but which are not among the lowest priced housing. The housing stock in these areas is likely to become increasingly susceptible to investments in upgrading (often referred to as gentrification). As explained in the EIR, employment growth contributes to this phenomenon although there are other important factors (p. IV.D.81). In recent years, increasing preferences for central city neighborhoods and older housing, an increase in the types of households with these preferences, and increasing incomes have been contributing factors.

While this type of upgrading provides housing for one group of consumers it decreases the stock of lower-priced, more affordable housing for those with relatively lower incomes (as explained above). Generally, it is the lower-priced stock which is most difficult to replace, and the households with relatively lower incomes who have the most difficulty paying for housing.

Comments ask for quantification of the extent that this type of upgrading would occur because of C-3 District growth and for quantification of the future prices and rents of these upgraded units. As explained earlier in this response, impacts of this type cannot be quantified. Not only would this type of quantification require very detailed forecasts of future housing market operation throughout the region (which are not available), it would require the ability to separate out those changes which are the result of C-3 District growth and which would not otherwise occur. The complexities of all the factors involved make it very difficult to quantify such changes with any reasonable degree of accuracy.

Treatment of Changes in Workers Per Households. The EIR states that all of the increase in C-3 District workers forecast to reside in the rest of the counties of the region does not represent a net addition of population and households in each county or in the region overall. This is primarily because the average number of workers per household is expected to increase, thereby adding workers without necessarily adding population, households, or housing (p. IV.D.81). The City of Berkeley comments that the EIR appears to conclude that the increase in employed persons per household does not represent a negative impact for the communities of the region. The comment goes on to state that "Berkeley considers the population shifts and degradation of living standards buried in the Draft EIR's forecast...to represent serious negative impacts that require mitigation." Berkeley asks about the increase in workers per household forecast for Berkeley and requests more detail about the extent to which such change would be associated with other changes in household and population characteristics.

There are several points to clarify. First, it is not the intent of the EIR to imply that changes in the number of employed persons per household would be without any negative impacts. The overall changes reflected by the forecasts incorporate several different types of individual changes (described below) some of which would represent negative impacts. Second, the EIR should not be read as stating that all of changes in employed persons per household would be caused by C-3 District growth. This is not correct. C-3 District growth plays a role, but it is not the only or the most important factor behind the total changes that are forecast. Third, the primary purpose of the EIR statement referenced in the comment is to clarify what is represented by the numbers describing the future residence patterns of C-3 District workers. The statement is not intended to describe impacts nor to make any judgments about the desirability of the changes that are expected to occur by 2000.

As used in the EIR, the average number of employed persons per household compares the employed population to the number of households. The EIR explains that this ratio has been increasing throughout the region and is expected to increase during the EIR analysis period (See pp. IV.D.42-IV.D.47, pp. IV.D.58-IV.D.60, and pp. I.11-I.15). The future rate of increase is forecast to decline over time, however. An increase in the overall average number of workers per household reflects (1) an increase in the average number of workers per household in households with workers and (2) an increase in the number of households with workers. There is very little information to identify how much each of these factors contributes to the overall change.

For further clarification, it is useful to describe the types of household changes reflected in the overall pattern. There are differences between the region overall and the communities within the region. For the total region, the following types of changes combine to support increases in the average number of workers per household:

- increases in overall labor force participation including:
    - more women who work
    - a larger number and percentage of the population in their labor force years (ages 16-65)

- changes in how people group into households reflecting:

    - adaptations due to housing costs
    - lifestyle preferences
    - the age distribution of the population or the mix of types of households for reasons other than those above (foreign immigration and migration patterns within the U.S.)

Increases in the average number of workers per household for individual communities would not only reflect the above factors, but would also reflect changes in the preferences of certain types of households to reside in different parts of the region (such as stronger preferences for the central cities or the suburbs) and/or changes in the number of households with these various different preferences for residing in different areas (such as proportionally more households with preferences for the central cities or the suburbs).

Some of the changes identified above would represent negative impacts but other changes would not. For example, adaptations to higher housing costs (such as the need for an additional household member to work in order to cover higher expenses or for more workers to live together rather than by themselves for housing affordability reasons) would generally reflect negative impacts. Much of the increase in the number of women who work (excluding those who must work to cover basic expenses) and changes in the age distribution of the population whereby there are more people in their working years are not necessarily negative impacts, however. Many more women are choosing to work than in the past. Many workers are choosing to share housing for reasons other than financial. The EIR simply reports the results of all these factors, whether positive or negative.

Review of the types of changes identified above also demonstrates that the increase in the overall average number of employed persons per household is the result of many factors. These include demographic, lifestyle, immigration and migration, employment and housing market factors. Thus, population shifts and changes in living standards are included within the forecasts presented in the EIR. Not all of the changes represented by more workers per household reflect negative impacts, however. Further, only a relatively small portion of the negative impacts would result from C-3 District growth.

It is not the intent of the EIR to ignore these effects. The description of the implications of higher housing prices and rents includes discussion of impacts of this type (see p. IV.D.80). This description primarily applies to San Francisco because the effects of C-3 District growth in San Francisco would be more important relative to other factors than would be the case for the rest of the region. As acknowledged in this response, such effects are relevant from the regional perspective as well.

Berkeley suggests that the required mitigation for this impact is omitted. That is not correct. The mitigation section deals with the provision of housing to mitigate the housing market impacts of C-3 District growth (pp. V.D.3-V.D.10). To the extent that housing is provided to reduce the upward pressures on housing prices and rents, it would also limit the negative implications of higher prices and rents including the adaptations that would be needed to support higher housing costs. Changes in the number of workers per household which are not the result of C-3 District growth are not appropriate subjects for mitigation in this EIR on impacts of C-3 District planning proposals.

As explained previously, the EIR did not develop forecasts for all of the individual jurisdictions within the region. Thus, the EIR does not forecast employed persons per household for Berkeley. ABAG's Projections '83 also does not provide these forecasts for cities of the region. Estimates for Alameda County are available. The EIR estimates of employed persons per housing unit (including vacant units) for Alameda County indicate an increase of from 1.16 persons per housing unit in 1980 to 1.23 in 2000, a change of about six percent (see pp. I.11-I.15).

Berkeley also requests documentation of the extent to which an increase in the average number of employed persons per household is associated with a decline in the Black population, families with children, middle income households, and reductions in the average household size. These types of changes would be influenced by many of the same types of factors that affect changes in workers per household. Such broad demographic changes cannot be solely or primarily attributable to C-3 District growth. (See Section D.1 for a discussion of demographic change in the City of San Francisco, where the effects of C-3 District growth would be greatest.)

D.3.2.4 Perspective for Evaluating Regional Housing Impacts

The EIR Assesses Impacts of C-3 District Growth Not Total C-3 District Activity. This EIR assesses the regonal impacts of C-3 District growth. It is not the purpose of this EIR to address the implications on the rest of the region of total economic activity in downtown San Francisco. The subsections above which respond to those comments requesting more detail about the regional housing impacts of C-3 District growth discuss the differences that C-3 District growth would make within the expected future regional context without such growth. The EIR identifies total C-3 District employment in 2000 and total C-3 District workers expected to reside in different parts of the region, but it is the difference between the totals in 2000 and the totals in 1984, i.e. the growth, which is the subject of the impact assessment. Existing C-3 District employment is part of the current setting.

Downtown San Francisco has been the economic and financial center for the region for over 100 years. It is not the role of this EIR to identify all the interrelationships between this downtown area and the rest of the region. The decision as to whether downtown San Francisco should exist as the center city of the region is not among the choices now being made. It is not possible to go back in time and "start over" as some of the commenters imply that they would like to do.

In comments on the Draft EIR, the City of Berkeley makes the point (addressed in the responses above) that housing market impacts are not uniform throughout the region by stating that "the impacts...are not trivial of 376,400 workers projected to work in the adjacent city of San Francisco". To clarify the purpose of this EIR, total activity in downtown San Francisco is not the subject of this EIR. Thus, Berkeley's questions about housing impacts are addressed in terms of the implications of C-3 District growth, not total C-3 District employment as requested.

Less C-3 District Growth Would Not Mean Proportionally Less Regional Impact. The EIR analysis of various C-3 District growth scenarios and of the business activities expected to grow demonstrates that there is not a simple correspondence between less C-3 District growth and less growth overall in either the City of San Francisco or the region. In other words, because of the strong business preferences for C-3 District, San Francisco, and Bay Area locations, policies which result in lower C-3 District growth would not have similar effects from the broader City or regional perspective. In fact, because of the willingness of businesses to accept substitute locations elsewhere in the City and region, the implications of less C-3 District growth would be higher rates of development in other areas. It is also the case that the total amount of regional growth would be less since some businesses would choose another headquarters city such as Los Angeles, if suitable space in downtown San Francisco were not available. (See response to comments in Section B.2 for more detail on these shifts and on implications for the overall regional development pattern.)

The significance of the conclusion that most growth in the C-3 District would occur elsewhere in the region if not in the C-3 is the perspective it provides for evaluating the impacts that are identified in the EIR, particularly the perspective of regional impacts. It would be misleading for those who were concerned about the housing impacts of C-3 District growth to conclude that such impacts would not occur if the proposed Downtown Plan were not adopted or if a lower growth alternative for the C-3 District were chosen. This is not necessarily correct.

In comments about the differences in the housing impacts of C-3 District growth among communities within the region, the City of Berkeley asks how the impacts for closer-in cities like theirs would be different if employment growth were located at the periphery instead of at the center of the region. The economic analysis done for the EIR indicates that the alternative locations for C-3 District business activities are not locations at the region's periphery. Among non-C-3 District locations within the region, many business activities would substitute other San Francisco locations (primarily those adjacent to the C-3 District). Others would substitute locations which are relatively closer-in and accessible such as downtown Oakland, other East Bay locations along the I-80/Cal-17 corridor, locations in San Mateo County particularly along US-101, and potentially some in closer-in Marin County areas. Only some of the business activities would subsitute more peripheral locations such as in Contra Costa/Alameda Counties (I-680 corridor), Solano County or Sonoma County. Overall, of the growth that would substitute a location outside of San Francisco, the largest amount, and probably the majority, would end up in the East Bay (both sides of the hills).

Differences in the amount of growth in San Francisco's C-3 District would make less difference in the housing markets in the East Bay communities than in the housing markets in communities in other parts of the region. In fact, it is probable that the overall future housing market situation in the East Bay would show little difference because of the substitutions of locations that would occur.

The ability to mitigate housing impacts is a consideration in assessing alternative regional growth scenarios. It may be that there is potentially greater ability to secure housing mitigation from the business sector in downtown San Francisco where the strength of demand by relatively higher rent-paying uses is strongest (i.e. in prime downtown San Francisco locations it is more likely that rents could increase to offset the cost of housing mitigation and/or that land value reductions to cover such costs would not affect the overall attractiveness of investment). With less ability to expand in the C-3 District, those businesses which accept a substitute location elsewhere in the region may expect to pay lower total costs for a less preferred location (providing less ability to fund mitigation). Further, the competition for tenants among potential substitute locations outside San Francisco results in efforts to keep space costs low, in order to attract tenants (further reducing the ability to fund mitigation). Thus, C-3 District growth at the levels analyzed in the EIR, along with the City's Office-Housing Production Program (OHPP) and other efforts to expand the supply of San Francisco housing in and around the downtown area, could result in less overall impact on the region's housing market than would lower C-3 District growth with more dispersed development.

Regional Perspective on the Location of Jobs and Housing. Comments express concern over San Francisco's inability to house those employed in the City and concern about the City's heavy reliance on the rest of the region to house downtown workers. While San Francisco certainly shares the concerns expressed about regionwide housing and transportation issues, San Francisco's role as the center city of the region is not new nor is it unique to the Bay Area.

Within large metropolitan regions, there will be areas which are centers of employment, areas which are primarily residential, and other areas which provide more of a mix of both types of functions (employment and housing). The degree to which these patterns exist depends on the overall land use pattern of the region--is it focused around a major center city with high densities at the center and the lowest densities at the periphery or are there several, less dense centers of activity distributed around the region with a less concentric and more dispersed overall land use pattern? Since the development pattern in the San Francisco Bay Area is more similar to the former model above (the large Los Angeles metropolitan region is more similar to the latter pattern), there tends to be more specialization of functions. The high density center plays a stronger role in employing the region's residents than in housing them. More outlying areas depend on the center city to employ some of their residents and the center city depends on more outlying areas for housing. Although Bay Area employment is more dispersed throughout the region than was once the case, this basic land use pattern still exists. The Bay Area is similar to many other regions throughout the country, particularly those with older center cities.

The extent to which employment and housing functions can be expected to "match" on a community-by-community basis (the comments imply that they should) also depends on how the jurisdictional boundaries are drawn. The center city is able to provide a better "match" of jobs and housing to the extent that its boundaries extend over a wider area than if they are limited to a smaller geographic area. For example, cities like Houston, Phoenix, and Tucson are likely to have a better match of jobs and housing than cities like San Francisco, Boston, Seattle or Washington, D.C. The former cities tend to include all or much of the regional area within their boundaries, whereas the latter cities are smaller parts of large metropolitan regions which include many jurisdictions. Because of the geography of the Bay Area, the land area of the City of San Francisco is relatively small. Further, when the area now known as San Mateo County was severed from San Francisco County in 1856, San Francisco forfeited much of its ability to match employment and housing functions within one county.

Therefore, the number of employed persons and the number of jobs matches at the regional level. In the Bay Area it does not match at the local level in any of the cities (e.g. the University of California at Berkeley is a major employer but does not draw all of its employees from the City of Berkeley). Thus, while San Francisco recognizes that it must make strong efforts to provide additional housing, other communities and planning agencies must understand that San Francisco will continue to depend on other cities for housing just as those cities will depend on San Francisco for jobs. Jobs and housing in the Bay Area have never "matched" on a community-by-community basis. They probably never will.

Implications of the Location of New Housing in Relation to Downtown San Francisco. ABAG states that the communities approving more housing than jobs are often the ones located furthest from San Francisco and those which lack direct public transportation links to the City. The EIR addresses the implications this situation but not in the manner suggested by the comment.

The forecasts of future residence patterns of C-3 District workers do not assume that the additional C-3 District workers would necessarily occupy the new (additional) housing, as is implied by the above comment. There is a very dynamic pattern of housing occupancy which occurs over time as people move in and out of the region and others change their housing within the region for a variety of reasons. As households choose housing they consider proximity to places of work as well as preferences for housing of various types and in various price ranges.

Thus, even if all the new housing were built at the periphery (which is not the case), most of the additional C-3 District worker households would end up in relatively closer-in locations rather that at the periphery. The C-3 District workers would also tend to end up in locations which are relatively more accessible to downtown San Francisco than in locations that are very distant or highly inaccessible to the City. Those who end up at the furthest periphery would tend to be households with persons who work at the periphery or in the middle tier of the region rather than in the center.

The EIR accounts for the addition of jobs at the center, the addition of housing at the periphery, and describes the implications of the resultant residence and commute patterns. (See Section D.3.2.1 of this response.)

Concern for the Increasing Radius of the Region. One commenter states that the EIR should account for the increasing radius that workers in San Francisco will use to look for affordable housing and for the implications of this pattern for the development of agricultural land and open space at the periphery. Another commenter expresses concern that the housing being built for workers on the eastern side of the East Bay hills is taking away what is left of the open space in the East Bay, citing various proposed new communities as examples (Los Positas near Livermore, Manzanita in Solano County, and Gumpert Ranch in Contra Costa County). (The comment also mentions Harbor Bay Isle in Alameda. This development is not on the periphery of the region.)

The forecasts of future residence patterns of C-3 District workers done for this EIR account for the future availability of affordable housing and the locations of new housing development. Through the residence patterns forecasts, these factors are incorporated into the assessment of housing and transportation impacts. Section D.3.2.1 above and an earlier response regarding the methodology for forecasting residence patterns (see Section D.2.6) clarify how these factors were considered.

It is true that as the region grows, it is likely to expand outward, increasing the size of the developed area and reducing the supply of vacant land at the periphery that had been in agricultural use or open space. Although this process occurs, it is not necessarily a "one-for-one" change in which the additional workers all represent additional households and the need for additional housing units. There will be changes in the demographic and labor force characteristics of the population such that some additional workers would be supplied without adding households and housing units. Further, it is possible that housing and households could be added by accommodating higher densities in already developed areas thereby reducing the amount of land needed for new development.

The extent to which development occurs at the periphery and the patterns of that development (such as its density or whether it is added in largely developed areas or in more isolated new communities) depend on the policies for housing development in communities throughout the region as well as on the growth of employment and its associated demand for housing. In other words, while the growth of employment affects the demand for additional housing, the local policies affecting how and where housing can be supplied (in already developed areas and at the periphery) are more important in determining the extent that housing growth actually occurs at the periphery and the types of impacts on agriculture and open space/recreation that are of concern.

Generally, the comments imply that the growth accommodated in the C-3 District under the Downtown Plan would result in the development of more agricultural and open space land than would lower growth policies for the C-3 District. This is not necessarily correct. One must consider where the employment growth would locate if it were not allowed in the C-3 District, how that pattern of future commercial and industrial development would affect the development of land at the periphery, and, then, whether there would be differences in the demands for additional housing and the implications of those differences for the use of peripheral land for housing.

Although the total growth of the region would probably be lower with less C-3 District growth as compared to more growth (since some businesses would substitute a location outside the region), the substitutions for the C-3 District of other areas in the City and throughout the region could result in a lower overall density of development and a more dispersed overall, regional development pattern. This more dispersed pattern could very likely use more land area than a more centralized pattern with higher overall densities.

On the other hand, it is important to remember that the Downtown Plan is proposing somewhat less growth in downtown San Francisco than would occur under present controls rather than encouraging more growth as implied by many of the comments. Whether pressures on agricultural land and open space are increased or reduced because of lower C-3 District growth also depends on the policies of other local agencies in the region. Their policies will affect how much of and in what pattern the growth, that would otherwise be in the C-3 District, is instead accommodated elsewhere in the region. San Francisco has no control over land use policies in other communities. To the extent that reduced C-3 District growth helps to reduce pressures on agricultural land and open space, San Francisco is doing its part.

D.3.3 Questions About the Implications of Different Future Conditions

Comments ask about different future conditions than those forecast or assumed in the EIR. They want to know how residence patterns and housing market impacts would differ from those described in the EIR, as a result of different future conditions. This section addresses these comments. Depending on the comment, some responses deal with housing impacts in San Francisco while others address both San Francisco and the rest of the region.

D.3.3.1 What If Present Residence Patterns Did Not Change

The forecasts of future residence patterns of C-3 District workers indicate that the percentage of the C-3 District workforce that resides in San Francisco will decline over time (although the numbers increase) while the percentage residing in other parts of the region will increase (the number also increases). A commenter asks how impacts would differ if the current percentage distribution of C-3 District workers among counties of the region were to remain unchanged in the future.

The number of C-3 District workers residing in all of the counties throughout the region would still increase if the current percentage distribution remained unchanged. Compared to the EIR forecast, there would be a larger increase in C-3 District workers residing in San Francisco and a smaller increase in the number residing elsewhere in the region. If the future distribution of housing and of the total employed population throughout the region remained as forecast in the EIR, there would be some differences in housing impacts.

Compared to the situations analyzed in the EIR, more C-3 District workers residing in San Francisco would mean greater additional pressures on the City's housing supply and stronger upward pressures on housing prices and rents. The resultant implications of higher prices and rents would also be greater. (See Section D.3.1 for more discussion of these implications.) The opposite would be true for housing markets in the rest of the region. Compared to the situations analyzed in the EIR, there would be less additional pressures on the housing supply outside of San Francisco and less upward pressures on prices and rents. (See Section D.3.2.3 for more discussion of these implications.) Holding the current percentage distributions constant would make more difference in the housing markets in the East Bay than in the North Bay or the South Bay.

The analysis of alternative scenarios for C-3 District workers living in San Francisco that is presented in Appendix I includes a scenario that assumes that the 1981 percentages of C-3 District workers living in San Francisco remain constant in the future for each business activity (pp. I.26-I.30). The appendix text explains why that scenario was not chosen to be the most likely. The impact section of the EIR text explains how recent trends indicate that residence patterns appear to be changing and why the trends incorporated into the EIR forecasts are expected to occur (pp. IV.D.42-IV.D.56).

D.3.3.2 What If More or Less Housing Is Built in San Francisco

The EIR assumes that the most likely scenario of future housing production in San Francisco would result in the addition of about 20,000 housing units from 1980 to 2000 (pp. IV.D.61-IV.D.63 and I.15-I.21). One commenter asks how housing impacts would differ if 30,000 units were constructed or if only 15,000 units were built. The comment asks if a matrix of significant housing "indicia" (sic) based upon alternative housing scenarios can be prepared. Another commenter states that, in his opinion, the EIR overestimates housing production and thus underestimates housing impacts.

Assuming the same employment growth, more housing production would result in less housing impacts in San Francisco, and less housing production would result in more impact on the City's housing market. The differences can be discussed in relative terms along a continuum. They cannot be quantified to identify precisely how much difference the supply would make.

If 30,000 units were added in San Francisco instead of 20,000, there would be a larger increase in the number of C-3 District workers residing in San Francisco (although the additional C-3 District workers would not be proportional to the additional supply). However, there would be less additional competition for existing City housing and less resultant upward pressure on housing prices and rents. An additional 10,000 units (50 percent more production) could make a substantial difference in overall housing market operation in San Francisco. It could release existing market pressures and reduce additional competitive pressures on the existing housing stock. This is particularly true since that large an addition of housing in San Francisco would probably have to include a share of relatively lower priced, new housing (since it might be difficult to market that many high priced units). The implications of higher prices/ rents (discussed in Section D.3.1 and in Section D.6) would also be reduced as a result.

If 15,000 units were added instead of 20,000, the differences in impacts clearly would be the opposite of those described above. If less housing were added, there would be less of an increase in the number of C-3 District workers residing in the City (although how much less would not be proportional to the lower additional supply). There would be greater additional competition for City housing and more upward pressure on housing prices and rents, particularly on the existing housing stock. These additional pressures are likely to be strongest for rental housing and housing priced at average or just below average prices/ rents. The implications of increased competition for the available housing and of higher prices/rents that are described in the EIR and in Sections D.3.1 and D.6 of these responses would be greater with less housing production.

There would be less effect in other parts of the region than in San Francisco. However, the direction of the differences would be similar--more production in San Francisco would mean less impact on housing in other parts of the region and less production in the City would mean more impact in other areas.

D.3.3.3 What If Growth Is Understated and Housing Production Is Overstated

One commenter states that, in his opinion, the EIR understates C-3 District growth and overstates housing production in San Francisco. In response, housing impacts would be greater than identified in the EIR if he is correct. The magnitude of the difference would depend on the extent of underestimate and overestimate. (See Section B.1.2 for more discussion of the C-3 District growth forecast in the EIR and how it compared to other scenarios, both higher and lower than the EIR forecasts.) Some difference would apply throughout the region if it were assumed that growth in the rest of the region would be the same even if C-3 District growth were greater. Greater housing impacts are likely to be the most pronounced in San Francisco, however.

The analysis of Alternatives in the EIR evaluates scenarios which differ in terms of the amount of C-3 District growth relative to the amount of additional housing produced. That section explains how both employment growth and housing supply are important determinants of housing impacts. Of the six scenarios (Downtown Plan and five Alternatives), the one with the most C-3 District growth has the least housing production (Alternative 1), and the one with the least C-3 District growth has the most housing production (Alternative 4). The text describes how residence patterns and housing market impacts are expected to differ among these different scenarios (see pp. VII.D.1-VII.D.13).

D.3.3.4 What If Housing at the Periphery Is Not Available at Affordable Prices

The future context regarding regional housing production, availability, and affordability that is incorporated in the EIR is described in the EIR text (pp. IV.D.58-IV.D.60) and appendix (pp. I.11-I.15). Questions about this scenario and about how it was incorporated into the forecasts of future residence patterns are responded to in an earlier section (see D.2.6, D.2.5, D.2.3 and D.3.2.4). Basically, the future context is incorporated into the EIR through the regional scenarios of future housing supply, future employed residents, and future employment.

The future regional scenario for the EIR includes employment growth in the more outlying areas of the region such as in eastern Contra Costa County and Silicon Valley. The amounts of growth expected in these areas are those of ABAG's Projections '83. The regional scenarios of housing units and employed residents account for all of the workers to be employed in these areas as well as for those to be employed in San Francisco.

The future regional context also recognizes that there will be greater competitive pressures for housing in some parts of the region than in others. Incorporated into this future context is the expectation that adaptations will occur as households make trade-offs between their preferences for types of units and locations and their ability and willingness to pay for housing. These adaptations will occur in areas like Silicon Valley and eastern Contra Costa County.

The EIR forecasts of future residence patterns of C-3 District workers also account for other employment growth expected within the region and for the greater competitive pressures expected on housing in other parts of the region (see earlier response in Section D.2.5). The EIR analysis recognizes that future employment growth elsewhere in the region will affect the ability of C-3 District businesses to compete for workers residing in various parts of the region, and it will affect the competition that C-3 District workers will face for housing in other areas. Thus, the comments which imply that the EIR does not assess the likelihood that development in other areas (eastern Contra Costa County and Silicon Valley) will result in higher prices for housing in nearby areas is incorrect.

The EIR statement that "the most potential for housing development in the more affordable price ranges exists at the periphery of the region" (p. IV.D.59) does not conflict with the future context described above. Housing development on vacant land at the periphery is generally less costly to build than housing on in-fill sites, and housing prices and rents for comparable types of units are lower at the periphery than in closer-in areas. Silicon Valley is not assumed to be part of the periphery. Further, the fact that housing in some more outlying locations will be higher-priced than in others and will be higher-priced than units in some closer-in locations, does not conflict with the generalized statement above. The statement cited above is a relative one and is not meant to imply any particular absolute standard or level of affordability.

Although many of the concerns expressed were considered in the EIR analysis, it is possible that the overall regional context and the implicit assumptions would not be accurate. If the workers needed for the regional scenario of future employment were unable or unwilling to pay for housing in the region, there would be less regional employment growth and fewer employed residents than have been forecast. It is difficult to anticipate whether employment growth in San Francisco's C-3 District would be affected or if employment growth in other regional areas would be affected, leaving C-3 District growth unchanged. This would depend on the extent to which labor force growth was affected and on how these effects occurred throughout the region. (The future regional context already incorporates the effects of housing prices in this region relative to prices in other regional areas. More housing development and more employment would be forecast for the Bay Area, if housing were expected to be less costly relative to other regional areas than assumed here.)

It could also be the case that although the overall regional context in terms of numbers of jobs, workers, and housing units would not be very different from the regional scenarios incorporated herein, the overall level of housing prices/rents would be higher, and the general standards of housing services available at various costs would be different and would present more need to adapt and more problems and hardships. This would not affect the impacts of C-3 District growth that are described in terms of greater competition or higher prices/rents than would otherwise occur. It would affect the underlying conditions that would otherwise define overall future characteristics of the region's housing market.

The comment also asks about the consequences if the anticipated housing for families and rental housing are not available within the region in the future. The response is basically the same as that above. If the future regional context differs from the anticipated conditions, there could be less overall regional growth or more competitive regional housing market conditions. To clarify, the following identifies the assumptions that are implicit in the future regional context related to family housing and rental housing.

Regarding family housing, the overall housing supply scenario assumes that a mix of types and sizes of units will be produced, without making specific assumptions about family housing, per se. Regarding rental housing, it is expected that the production of rental units will become somewhat more feasible as rents increase over time and that, eventually, some rental housing will be built in some parts of the region. At least for the foreseeable future, the amount added will not be large. It is also assumed that competitive pressures for available rental housing will increase and that there will be continuing upward pressures on rents. This situation will continue largely due to other factors besides employment growth, although employment growth would add demand pressures. Similar conditions are expected on a statewide level as well.

D.3.3.5 What If the "Match" Between Jobs and Housing in San Francisco Does Not Improve

One comment asks about the implications if the "'match' of people to housing" does not improve in the future. The statement in the EIR that the comment references (p. IV.D.78: "...there is likely to be a better 'match' between job growth and housing growth in San Francisco in the future than occurred in the past") describes the comparison of additional employees and additional San Francisco housing. (See p. IV.D.78 and note 59.) According to the EIR assumptions and forecasts, there would be more additional housing in San Francisco relative to employment growth between 1980 and 2000 than occurred in the past. If this situation does not occur--if there were less additional housing supply relative to additional demand, then the "match" would not improve as forecast in the EIR, and could potentially be worse from the perspective of the City's housing market. Additional housing in the range of 15,000 units over the 1980 to 2000 period, assuming the same employment growth forecast in the EIR, would result in a "match" (on an average annual basis) similar to what occurred from 1970 to 1980. The implications of this situation would be those discussed above in Section D.3.3.2 for the scenario of 15,000 units added, instead of 20,000, from 1980 to 2000. If less than 15,000 units were built, then the implications for the City's housing market would be worse than those described in Section D.3.3.2.

The same comment goes on to imply that the "match" refers to the types of units built relative to demand. This is not the intent of the EIR sentence referenced. However, referring to the match between types of units built and demand, over the long term, housing developers will not continue to supply units that are not purchased or rented. For example, if there were a "glut of expensive condominiums" (as stated in the comment), developers would adjust their production to better satisfy demand. They would not build similar units as long as a large inventory remained unsold or unrented.

As explained in Sections D.3.1 and D.3.2 of these responses, developers will produce housing that can be marketed for a competitive return. Because of many housing cost and demand factors, there will continue to be a need for units at prices and rents which do not provide the competitive return necessary to support private market construction. This situation exists throughout the region, and will continue to exist in the future, with or without C-3 District growth. It is the role of the Residence Element, not this EIR, to address the overall needs for affordable housing.

The impact section of the EIR concludes that C-3 District growth would increase competition for the lower-cost housing of the types the market cannot produce (pp. IV.D.79-IV.D.81 and Section D.6 of these responses). To mitigate these impacts, the City has proposed an OHPP ordinance which would require that affordable housing be built in San Francisco. If the OHPP ordinance is adopted and other City housing actions and redevelopment plans are carried out, then there would be more affordable housing built in San Francisco in the future than in the recent past.

D.3.3.6 What If Rental Housing Is Not Supplied in San Francisco

A commenter states that there is a need for affordable rental housing in San Francisco to house C-3 District workers. This is true currently, in San Francisco and throughout the region, and for a larger demand pool than C-3 District workers. As explained in Sections D.4 and D.5, actions to maintain the supply and encourage production of rental housing in San Francisco are dealt with in the Residence Element of the Comprehensive Plan. The rental housing problem will exist with or without C-3 District growth. Supplying affordable rental housing will continue to be an important housing market issue, and alleviating the problem requires broader-based solutions than can be addressed through analysis of C-3 District growth.

There are a number of reasons why rental housing is not being produced, foremost among them the fact that residential rents have not kept pace with changes in construction, financing and other development costs. This market context is recognized in the EIR analysis and is considered in the impact assessment. It is one of the explanations for the increase in competitive pressures for lower-cost housing in general and rental housing in particular. The implications of this more competitive situation are as described in the EIR on pp. IV.D.77-IV.D.81 and elaborated on in Section D.3.1 above and in Section D.6 in response to this and other comments on the Draft EIR.

D.4 HOUSING AFFORDABILITY

Housing affordability refers to the relationship between housing costs (prices/rents and other costs) and household incomes. Affordability is a function of a wide variety of demand and supply factors in the housing market. It is an issue in the EIR analysis primarily because C-3 District growth adds demand to a regional housing market in which many households now allocate a large share of their financial resources to housing. Further, the housing choices available at lower prices and rents have become more limited. Many households cannot now afford the housing they prefer and others are not housed at the standards that, until fairly recently (mid 1970s and later), they had come to expect.

For a number of reasons, the region's housing market cannot produce new housing that is affordable to many of the region's households. Thus, adding demand (because of employment growth) results in greater competition for the available housing and a series of interactions whereby the market adapts to the greater demand. Many are concerned because employment growth would increase the competition for the supply of lower-cost (more affordable) housing, would intensify the affordability problem, and would increase the extent to which households have to lower their expectations for housing, change their living arrangements, pay more for less, or make other adaptations to a tighter housing market. If more new housing and/or housing affordable to more of the additional worker households could be produced, then the competitive pressures affecting other consumers in the housing market would be less.

Housing affordability was considered in the EIR. It is a factor in the forecasts, in assessing the forecast results for impact assessment, and in developing mitigation measures. Housing affordability is discussed in the EIR on pp. IV.D.15-IV.D.24, IV.D.58-IV.D.60, IV.D.77-IV.D.82, and V.D.1-V.D.11, and in these responses, Sections D.2.6, D.3.1, D.3.2, and D.3.3.

All of the sections referenced above also discuss rental housing. It is recognized that part of the concern for housing affordability arises because of the difficulties of producing rental housing and of the growing demand for the available rental units. The responses in this section, however, focus on the relationship between household incomes and housing costs without specifically discussing the rental or ownership markets. The reader is referred to the above references for more specific comments about rental housing per se.

The Forecasts Incorporate Housing Affordability Factors

As described in Section D.2, the residence patterns forecasts represent the most likely outcome for the housing market. The forecasts are the future context for measuring housing market impacts considering C-3 District growth (demand), other citywide and regional growth, and other housing demand and housing supply factors. These forecasts were necessary because the market context is regional as well as citywide. Housing demand is affected by factors in addition to C-3 District employment growth, and the market adjustments which will occur in response to increased demand will affect more than just the additional households of C-3 District workers.

The forecasts for assessing housing market impacts are not simply a matter of estimating the number of units needed to "balance" additional demand due to C-3 District growth as suggested in the comments.

Assumptions about housing affordability conditions were necessary in preparing the EIR economic forecasts. It is not only a question of how the additional workers would be housed, but also one of how the level of growth would be affected by the affordability of Bay Area housing. If conditions in the housing market were assumed to improve significantly such that the relationship between housing prices/rents and household incomes returned to the conditions of the 1960's and early 1970's, then more regional employment and labor force growth would be expected than presented in the EIR. If the Bay Area "housing affordability crisis" were to become considerably worse because the rate of housing production does not recover from the low levels of the early 1980s, then the overall level of economic activity in the region would be less than presented in the EIR.

The assumptions about housing affordability in the Bay Area that are incorporated in the EIR forecasts are presented on pp. IV.B.58-IV.B.60. Section D.2.6 of these responses specifically answers the question of how housing affordability was considered in the residence patterns forecasts. The future conditions assumed to exist are the following. The availability and cost of housing are unlikely to return to the conditions of the 1960's and 1970's. Housing will remain more costly relative to incomes and to other goods and services than it was in the past. On the other hand, the severe constraints on financing and the resultant high costs of housing in the early 1980's are not expected to continue over the long term. Production of market rate housing will recover from the low levels of the early 1980s, over the long term. It is also expected that efforts to produce more affordable housing will result in some construction of below-market units, although the availability of large, government subsidies is not assumed. Compared to housing in other parts of the country, housing in the Bay Area is assumed to remain more costly.

The Housing Market Impact Analysis Reflects a Continued Housing Affordability Problem

These assumptions are part of the future residence patterns scenario, in which, over the long-term, housing demand and supply, on a regional level, would "match". The scenario thus incorporates the dynamics of change throughout the regional housing market, including the adaptations made by households in a competitive market. These adaptations include those required because of expected future market conditions without C-3 District growth (because of other growth, supply factors, financial factors, etc.) as well as the additional ones required because of C-3 District growth. The housing market impacts of C-3 District growth (higher prices/rents due to increased competition as well as the household and housing choice changes that occur in response to higher prices/rents) are thus part of the residence patterns forecasts presented in the EIR.

The housing affordability considerations incorporated in the residence patterns forecasts provide the basis for the conclusions about future housing affordability in the impact assessment. The degree to which adaptations, such as accepting less than preferred housing, paying more for the same level of housing services, and changes in the occupancy of the existing stock, will occur is a measure of the future housing affordability problem. The extent to which C-3 District growth increases the problems that would otherwise exist is a measure of the impacts of C-3 District growth on housing affordability conditions. Sections D.3.1 and D.3.2 discuss these implications from the citywide and regional perspectives.

The Limitations and Uses of Housing Affordability Information

The comments suggest that consideration of housing affordability is missing from the EIR, because specific data linking C-3 District worker household incomes to housing prices/rents are not provided. The discussion above clarifies how the concept of housing affordability was treated in the EIR and how affordability problems were incorporated in the forecasts and impact assessments. The following discussion addresses the ways in which housing affordability is presented in the comments.

The comments request that the household incomes of additional C-3 District workers be compared with the housing expected to be supplied at various prices and rents to demonstrate that many of the workers could not afford much of the housing and thus to demonstrate the severity of the housing affordability problem. There is confusion about the usefulness of this information.

Consideration of the income distribution of worker households and how this compares with housing prices/rents is useful in a generalized way in forecasting and impact assessment, as described above. This information was used to complete the residence patterns forecasts and the impact assessment in the EIR, without specific quantification of the match between worker household incomes and housing prices/rents. In other words, it is not necessary to develop all of the quantifications requested in order to incorporate the key findings into the analysis. For example, the Downtown EIR Employee Survey data combined with the employment forecasts indicates that the household incomes of the additional C-3 District workers will cover a broad range (they are not all higher income or lower income households). The Survey also describes other characteristics of C-3 District workers, their households, and their current housing. This information, combined with current housing market information and expected future conditions, indicates that many of the additional worker households will have financial resources below those needed to generate new construction by the private market. No further analysis is then needed to identify those submarkets of units and of consumers where increased demand would result in the need for additional future adaptations (accepting less than preferred housing, paying more for the same services, paying a larger share of income for housing, sharing a unit with more people, etc.) by C-3 District workers and others in those submarkets.

Using these types of generalized conclusions it is possible to develop a scenario of how the C-3 District workers would be housed and to analyze the impacts/adaptations which occur in the process. This was done in the EIR. The EIR thus describes the market-wide implications for all housing consumers of how the C-3 District workers "resolve" their housing problems and actually end up being housed. The data requested would not describe these implications. They would only describe the affordability criteria for C-3 District workers under assumed standards; they would not identify how the workers would actually end up being housed or if and how others in the market would be affected. In other words, the comparison requested would not, by itself, describe conclusions about housing market impacts.

Furthermore, there are many difficulties with quantifying future affordability conditions. As described above, the standards change over time as a result of the adaptations made to housing market conditions. For example, the recent re-structuring of the ways in which home-buying is financed and the rules governing housing production in many communities are key reasons why housing market conditions have changed so dramatically and why affordability has become such an important issue. As explained above, future changes in these conditions are the result of changes in many factors, not just employment growth. Thus, the quantification of affordability under an assumed standard for only C-3 District workers would be of limited usefulness in impact assessment. To develop comprehensive quantified forecasts of housing affordability under future housing market conditions throughout the region would require in-depth analyses of all of the relevant supply and demand factors and of their interaction. Long-term forecasts of this type do not exist and would require an extensive and costly effort to prepare.

Thus, the approach taken in this EIR was not to quantify future housing affordability relationships. i.e., future household incomes "matched" with future housing prices/rents. Instead, the analysis reached certain conclusions (described above) about how general affordability conditions, evident in survey, Census, and housing market data, would or would not change.

This discussion of the limitations, for housing market impact assessment, of an affordability analysis specific to C-3 District workers and the difficulties of forecasting future housing affordability conditions does not preclude other uses for information and analysis that the commenters wish to see in the EIR. Information on the expected household income distribution of additional C-3 District workers and on how this compares to housing market indices for expanding the supply of housing is useful in developing mitigation for the impacts of employment growth (additional housing market demand). This type of analysis shows where efforts should be directed both to relieve the competitive pressures due to additional demand and to provide more options for those below the threshold at which the market would produce new units. This was the approach taken for the analysis done as backup for the recently proposed Office-Housing Production Program (OHPP) ordinance in San Francisco. (See discussion in Section D.5 for more detail on mitigation.) That effort required analysis beyond that done in the EIR and oriented toward specific program objectives and information needs.

What can be provided and what is useful related to mitigation measures such as the OHPP is not what the comments request. It is not a simple matter of addition and subtraction (subtracting citywide or regional housing production from additional C-3 District worker households) to determine the housing "deficit" or "shortfall" due to C-3 District growth. The link between the number of additional workers and the number of new housing units is not direct. This approach ignores housing market dynamics and the citywide and regional context for employment growth. There are also difficulties in forecasting the supply of housing (both new housing and the existing stock) in communities throughout the region in various price/rent categories, unit types, and sizes, for the next 20 years. Even if there were such forecasts, there would be problems in deciding which of those units could be reasonably expected to be available to C-3 District workers. How this forecast could be matched with the affordability criteria for worker households would require a number of significant assumptions such as how the worker households would divide into renters and owners and what housing standards would be expected. Further, the approach is "backwards" to the extent that what is built and the prices/rents of future housing are determined by housing demand, not vice-versa.

In terms of mitigation, the key information to be learned from comparing worker household incomes to housing prices/rents is the number of households with incomes below the level required to support market prices/rents, sometimes referred to as the threshold level of prices/rents. This is the number of households for whom the market will not produce housing, because household income is not large enough to support the debt service or rental payments necessary to make new housing development feasible. This could be considered the housing "shortfall".

This shortfall, however, does not mean that these workers would not be housed, as described above. These workers will find housing through the re-shuffling and household adaptations that occur throughout the regional housing market. Measuring the shortfall (the number of households with incomes below the threshold level) is a means of estimating the need for mitigation to offset the household adaptations and the pressures on lower-cost housing and its existing residents. If more housing in the ranges affordable to those households below the threshold level were produced, then this would reduce the competition for lower-cost housing, the resultant pressure for higher prices and rents in these sub-markets, and the subsequent market adaptations that would otherwise occur.

Additional Information About Incomes of C-3 District Worker Households

In response to comments, additional information about the household incomes of C-3 District worker households is provided in Table C&R D.6.* The data show that the incomes of C-3 District worker households cover a wide range; they are not all in the upper income categories (as implied by some comments) or all in the lower income groups (as suggested by other commenters). The percentage distributions of households among income categories indicate that some change is expected by the year 2000 as a result of changes in the mix of C-3 District jobs of various types. The income distribution for the increase in C-3 District worker households in 1981-2000 is also shown in the table (right-hand column). This distribution describes the household incomes associated with workers in the business activities that are expected to grow in the C-3 District.

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*The data in Table C&R D.6 are tabulated for C-3 District worker households. These tabulations differ from those in the EIR which are summarized for C-3 District workers. For example, Table C&R D.6 shows the percentages of worker households in each of the household income categories. The EIR tables (Tables IV.C.9 and IV.D.3) show the percentages of workers with household incomes in each of the various categories.

The household income distribution for the growth indicates proportionally more households with higher incomes as compared to the 1981 pattern. Because of this difference, the overall average pattern in 2000 shows slightly higher percentages of households in the higher income categories and lower percentages in the lower income groups. (As noted in the table, these estimates only reflect the different rates of growth for the various business activities with different employment opportunities. They do not assume any real growth of household incomes (over and above inflation) which would change the income distributions for each of the business activity groups.)

One comment asks what the median income will be for C-3 District workers. It is not possible to tabulate median incomes from the survey data since the survey questionnaire did not ask for the specific dollars of household income, but rather asked the respondents to check the category which corresponded to their annual household incomes. Thus, since the survey data are only available by household income categories, estimates of future incomes can only be prepared for these categories. The data in Table C&R D.6 indicate that the median income would fall within the range of $25,000-$49,999 for 1981, 2000, and the growth from 1981 to 2000 (all in 1981 constant dollars). This category would also include the largest number of C-3 District worker households.

The comment goes on to ask where the employees with less than median incomes will live in 1990 and 2000. The survey data indicate that in 1981 they lived throughout the region (see Table IV.D.3 in the EIR). The survey data also indicate more than half of all C-3 District workers in the lower income groups (those with household incomes less than $25,000) lived in San Francisco and that San Francisco had a larger number of these workers than any other one county in the region. Compared to the distribution of C-3 District worker households in other Bay Area counties, the distribution for San Francisco shows that proportionally more of the C-3 District workers living in the City are in households with less than the median income for all C-3 District workers. Further, the survey data show that those who live furthest from San Francisco (and commute the furthest) are in the middle income category. This same basic pattern is expected to continue in the future. It not only reflects affordability criteria, but also the characteristics of the housing supply in each place, as well as the demographic, lifecycle, and lifestyle characteristics and preferences of those within the various income groups. (See the residence patterns setting discussion in the EIR on pp. IV.D.8-IV.D.35 for more discussion of demographics by place of residence for C-3 District workers.)

A third part of the comment asks what proportion of their household incomes will those below median income pay for the combined costs of housing and journey to work. That information is not available. The EIR describes the proportion of income paid for housing and indicates that those with incomes below the median pay a higher percentage of their income for housing than other households (see Table IV.D.5). This situation is expected to continue.

TABLE C&R D.6: ESTIMATED DISTRIBUTION OF C-3 DISTRICT WORKER HOUSEHOLDS BY HOUSEHOLD INCOME CATEGORIES, 1981 and 2000

Annual Household Incomes (1981 Dollars)	Total C-3 District Worker Households, 1981	Total C-3 District Worker Households, 2000	Increase in C-3 District Worker Households, 1981-2000
	%	%	%
Less than $12,000	13.9	13.2	11.3
$12,000-14,999	6.0	5.7	5.0
$15,000-24,999	24.9	23.9	21.8
$25,000-49,999	30.8	30.1	28.3
$50,000-74,999	17.6	19.8	25.1
$75,000-99,000	4.4	4.7	5.4
$100,000 Plus	2.4	2.6	3.1
Total	100.0%	100.0%	100.0%

NOTE: The distributions above apply to C-3 District worker households (not workers). The percentages for 1981 are from the Downtown EIR Employee Survey. The percentages for 2000 are calculated assuming the growth of C-3 District employment as forecast under the Downtown Plan and assuming that the 1981 income distributions (in constant dollars) for the households of workers in the different business activities (office, retail, hotel, etc.) do not change. The differences between the distributions in 1981 and in 2000 reflect differences in the mix of business activities (and not any real growth of incomes). The household income distribution for the increase in worker households from 1981 to 2000 reflects the expected mix of employment growth in the various business activities. Any changes in the income distributions over time due to factors besides the growth of C-3 District jobs of various types would be in addition to the changes reflected above.

SOURCE: Recht Hausrath & Associates

Although the household incomes described above cannot be matched with housing prices and rents in the manner requested in some of the comments, some information can be provided relevant to housing affordability. Comparison of the household income distribution for households with additional C-3 District workers (shown in Table C&R D.6) with the median income for the SMSA as calculated by the Department of Housing and Urban Development (HUD)* offers several conclusions related to the ability of the households of additional C-3 District workers to afford housing. The median income is defined such that half of the households have higher incomes than the median and half have lower incomes. It is the "middle" of the income distribution.

First, compared to all of the households in the SMSA, those with additional C-3 District workers would have higher than average incomes: about 39 percent would have incomes below the SMSA median and 61 percent would have incomes above this point. Second, analysis done for the proposed OHPP ordinance in San Francisco indicates that household incomes at around 120 to 150 percent of the SMSA median mark the threshold level for producing market-rate housing in San Francisco. Those with incomes below this level are likely to have difficulty paying the prices and rents necessary to cover all of the costs of building new units. Using this criteria, around half (45-54 percent) of the households with additional C-3 District workers would not have incomes high enough to support new construction. (See "Summary of the Economic Basis for an Office-Housing Production Program", prepared for the San Francisco Department of City Planning by Recht Hausrath & Associates, July 19, 1984.)

This threshold level is likely to be lower for the region overall and in other parts of the region because it is relatively more costly to build in San Francisco (land is scarce and at a premium and construction at higher densities is more costly). Nevertheless, there would still be a large percentage of households below this threshold on a regional basis.

This is not a surprising conclusion related to C-3 District workers; using the definition of median income (half of the SMSA households have incomes below this point and half have incomes above), the same conclusion would apply to over half of the existing households in the SMSA: their household incomes are not large enough to support the debt service or rental payments for new housing in San Francisco and a large percentage cannot afford new housing elsewhere in the region.

These comparisons substantiate the more generalized conclusions in the EIR and in this and other responses to comments. Many C-3 District workers and others cannot afford new housing. Therefore, the market cannot produce the new housing to satisfy demand. The resultant competition for the available units of existing housing leads to higher prices/rents and some additional construction. In this situation, there are numerous adaptations made in terms of housing choice, household size, and household spending, as people adjust their expectations as to how they are housed.

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*For comparison to the household incomes of C-3 District workers which are expressed in constant 1981 dollars, the 1981 median income estimated by HUD for the San Francisco-Oakland SMSA was used. This is the median income, updated by HUD from 1980 Census data, for the five county area: San Francisco, San Mateo, Marin, Alameda, and Contra Costa Counties.

The households with additional C-3 District workers would be somewhat better off than the average household, but many of them will add to the competitive pressures for the more affordable existing housing and to the need for adaptations and changes in the conditions under which people are housed.

Section 8 and UDAG Housing Subsidies

A commenter questions the ability to provide long-term affordable housing, stating, for example, that "the Section 8 and UDAG housing in the Tenderloin...will become market rate before the year 2000." The Section 8 housing subsidy program involves a federal contract covering the term of the financing, usually 20 to 30 years. Once the debt service is paid, the cost to the owner is relatively small, and it is reasonable to expect that the units would remain as low and moderate income housing. Moreover, most are owned by non-profit organizations whose purpose is to provide such housing. The Tenderloin rehabilitation projects that have used UDAG or other subsidized financing have similar arrangements for the term of the financing. Some of these projects will be transferred to non-profit groups to protect their status as low and moderate income housing.

D.5 MITIGATION FOR HOUSING MARKET IMPACTS

There is a difference between mitigating project impacts and solving the City's or the region's housing problems. As previously explained, the current housing situation arises out of a local, regional, and national context. While C-3 District employment growth plays a role, the housing problems of San Francisco and other Bay Area residents are not solely due to C-3 District growth. If these broader housing issues were tackled within the context of impact assessment and mitigation measures, the responsibility for mitigation could fall on a very large group of interests.

The question of how to provide affordable housing for San Francisco or the region's residents clearly requires a much broader response than can be provided in the Downtown Plan EIR. This is the role of the residence element of each locality's master plan.

In San Francisco, the Residence Element is, and the Downtown Plan is proposed to be, part of the City's Comprehensive Plan; they are intended to complement each other. The Residence Element is in essence part of the setting. Therefore, the policies and programs of the Residence Element, particularly those which address affordable housing and the retention of existing housing, can be considered as mitigation already in place for housing market effects of C-3 District growth under the Downtown Plan or Alternatives. The Residence Element contains the City's policies and programs related to housing production to meet the needs of residents and keep housing price increases under control insofar as public policy can do this, including strategies to increase housing supply in the City and retain the existing supply of lower-cost units. Rental and ownership issues and needs for family housing are also addressed in the Residence Element.

The basic strategies for mitigation related to housing market impacts are outlined in the EIR (see pp. V.D.1-V.D.11). One basic strategy--less employment growth either through an annual limit on citywide office development or an alternative with more development constraints than analyzed in the EIR--would result in less increase in the demand for housing and thus less increase in the competition and market pressures resulting in higher prices/rents. There would still be additional C-3 District worker (and other) households that could not afford market housing; there would still be some impact from the increased competition. This is because efforts to limit employment growth do not necessarily result in the mitigation of the impacts associated with the growth which would still occur. Further, growth limits do not directly address the housing market. The other basic mitigation strategies--housing production strategies--could have a greater effect on the housing affordability problems of C-3 District workers and the subsequent impacts of this demand among all groups of housing consumers.

There are two approaches to mitigation through housing production. The first involves encouraging and facilitating the production of housing, for example through zoning policy or commercial development incentives (bonuses) for housing production. This approach uses land use regulations to influence where housing can be built, the amount of housing allowed, and other aspects of development which affect costs (such as parking requirements). Policies of these types which enhance housing production are included in San Francisco's Residence Element and used to facilitate housing in the plans for areas such as Rincon Hill.

These types of land use policies throughout the region have an effect on region-wide housing production (amounts, types, locations, prices/rents) and housing affordability. Thus, facilitation of housing production and improvement of the overall situation with regard to housing affordability are region-wide issues. On a regional basis, such policies affecting location, densities, and the amount of production could lower the threshold level of prices and rents necessary to support new construction (holding all other demand and cost factors constant). Overall higher production could help to keep the prices/rents of existing housing lower than would otherwise be the case (with less new production).

The second approach to mitigation involves directly subsidizing the production of below-market housing, i.e. units affordable to households with incomes below the market-rate threshold. This approach is the basis for San Francisco's proposed OHPP ordinance. This approach would basically add housing at more affordable prices/rents thereby helping to meet needs that the market could not otherwise satisfy.

D.5.1 San Francisco's Office-Housing Production Program

The OHPP is not evaluated as part of the Downtown Plan EIR because it is not on the same legislative track as the Downtown Plan, and because it is not part of the Plan (see pp. IV.D.50-IV.D.51). An OHPP ordinance has been proposed by the Department of City Planning, and is now being reviewed by the City Planning Commission, along with four other proposed ordinances that have been referred by the Board of Supervisors. It is unclear at this time which version will be approved by the City Planning Commission and the Board of Supervisors.

An OHPP type program can mitigate the housing impacts of downtown office growth, and the EIR evaluates the OHPP (as defined in the Interim Guidelines) as a mitigation measure (pages V.D.5-V.D.9). The EIR estimates that about 1,800 additional units would be created between 1990 and 2000 due to the imposition of an OHPP requirement on C-3 District office developers (page V.D.5), using the formula incorporated in the Interim Guidelines. Perhaps an additional 1,000-1,500 units would be produced by imposition of an OHPP on office developments outside the C-3 District. Revisions to the formula, which are currently under review by the City Planning Commission, could result in a somewhat different estimate.

Generally, to the extent the OHPP leads to the development of housing that would not otherwise be constructed, the pressures on existing housing in the City and the region would be reduced. If the OHPP emphasized the provision of housing affordable to low and moderate income households, it would help to mitigate the effects of office development on the need for affordable housing. The OHPP ordinance recently proposed by the Department of City Planning contains such an emphasis on affordable housing. The current program (Interim Guidelines) does not emphasize low and moderate income housing in the requirement to the same extent currently proposed in the program revision.

A commenter questions a statement on page I.B.6 of the EIR that application of an OHPP citywide would result in less development outside of the C-3 District. The complete sentence referred to is: "The application of this additional development cost (OHPP), however, would probably result in less new office development outside the C-3 District than would otherwise occur under the Plan". The application of an additional development cost can reasonably be assumed to result in less development than would occur without the additional cost. Such costs have more effect on the feasibility of development in peripheral areas than in the C-3 District. This is because demand for space in these areas is less likely to support the higher rents that marginal projects in these areas would need to cover the increased costs. The tenants in areas outside the C-3 District are generally more sensitive to the costs of space and are looking for lower-rent space.

Whether or not the OHPP applies to projects of the San Francisco Redevelopment Agency (as suggested by a commenter) is a policy question for the Planning Commission and the Board of Supervisors, to be considered at the time that the proposed OHPP ordinance is reviewed. It is also a legal question for the City Attorney, who has not yet issued an opinion on the ability of the City to impose such a requirement on the Redevelopment Agency. Although the Department has recommended that the ordinance apply to the Agency, these questions will need to be resolved as part of the process of establishing an OHPP ordinance. It should be noted, however, that the Redevelopment Agency has already constructed or has required developers to construct substantially more housing than an OHPP requirement would oblige them to do. The YBC/South of Market Housing Fund was established by the Redevelopment Agency in consultation with community groups and the developer to mitigate the effects of the YBC project on the supply of affordable housing south of Market Street (see related discussion below). (The Transit Development Impact Fee applies to YBC development as discussed in Section E.2.7.2.)

The Council of Community Housing Organizations (CCHO) has submitted a critique of the OHPP, and asked for an evaluation of that critique in the EIR. The Department of City Planning's proposed OHPP ordinance addresses most of the criticisms raised in the CCHO critique. The appropriate place for use and evaluation of the CCHO critique is in the CPC's consideration of the new OHPP; copies of the critique have been provided to the Commission for their information and use in considering the proposed OHPP ordinances.

CCHO also asks how the EIR defines an OHPP "unit" of housing. As explained above, the housing likely to be produced under the OHPP was approximated in the EIR to analyze how it might work as a mitigation measure. (The OHPP is not included under the Downtown Plan scenario of housing growth as explained above and in Section D.2.2 of these responses.) For these purposes the OHPP formula (from the Interim Guidelines) was applied to the forecast of the addition of office space in new office projects to estimate the number of units required (additional office space divided by 250 sq. ft. per employee times 0.22 equals required housing units). It was then assumed that about two-thirds of the requirement would be satisfied by contributions to the City Housing Fund and about one-third by directly developing housing. For the City Housing Fund it was assumed that, on the average, one subsidized housing unit would be produced for about every four contributions (or requirements for units under the formula). For the remaining one-third of the requirement, it was assumed that about 15-20 percent would receive credit for rehabilitating older structures and about 80 percent would be credited for developing market-rate housing. Of the number of units built for credit (those built with the Fund, those built directly for credit, and excluding rehabilitations), it was determined that about 70 percent would be net additional units in the City, units that would not have otherwise been provided. Thus, the simple response is that each requirement under the formula was treated as one unit. However, through the analysis it was estimated that about 25-30 percent of the required units under the formula would represent additional housing units in San Francisco that would not have otherwise been provided without the OHPP. For more explanation see the EIR (pp. V.D.5-V.D.6 and note 3).

Another commenter notes that households of hotel workers appear to have a higher rate of couples with children than other C-3 District worker households, and asks that the application of the OHPP to hotels be evaluated. As noted previously, the OHPP is not part of the Plan, and it is not being evaluated here. Further, the relationship between hotel development and demand for San Francisco housing has not yet been quantified. A detailed analysis has been completed by the Department to establish mitigation requirements related to the increase of office workers downtown and impacts on San Francisco's housing market. A similar analysis for hotel workers is beyond the scope of this EIR, but may be undertaken in the future should the Commission or Board of Supervisors determine that it would be appropriate to apply a policy similar to that in the OHPP to hotels.

D.5.2 Regional Housing Mitigation

Several comments state that the EIR needs to include regional mitigation measures. One comment specifically suggests a regional housing mitigation fund.

The EIR could identify some of the types of mitigation measures which would reduce housing impacts at the regional level. However, it is important to note at the outset that the proportion of C-3 District workers living in counties outside San Francisco would not change significantly from 1981 to 2000 and that C-3 District workers would represent a relatively small proportion of the employed residents in these counties (see Table C&R D.4). Thus, it is not clear that there would be a basis for finding significant environmental effects on regional housing (assuming that housing is a physical environmental issue proper for CEQA analysis) in individual jurisdictions as a result of continued employment growth under the Downtown Plan or the Alternatives. Without this finding, mitigation would not be required.

In addition, San Francisco has no jurisdiction to impose mitigation requirements on development in the City that would be implemented outside the City's boundaries. Further, San Francisco has no ability to control local policies affecting housing production in other jurisdictions. The legal and practical difficulties affecting San Francisco's ability to enforce mitigation in other communities are highlighted by considering several potential mitigation strategies.

Developers of C-3 District buildings might be required to build housing elsewhere in the region to house the additional workers who would reside in other areas as forecast in this EIR. A major problem with this approach is that there would be no way for San Francisco to impose requirements on other jurisdictions to accept such additional housing. (It might be the most difficult to find locations for affordable housing at below market rents and prices.) Further, it would be difficult for San Francisco to monitor what was built to insure that it met the requirements. It is not clear that it would be legal for San Francisco to condition occupancy permits for San Francisco buildings on events outside of its jurisdiction and control.

Housing mitigation of regional impacts could also include actions by outside jurisdictions to change their local policies thereby facilitating more regional housing production. Examples of such actions could include increases in densities, reductions in the time required to process project proposals, changes in zoning to allow residential uses in areas where they are now prohibited, and/or reductions in fees or requirements to provide infrastructure which have the effect of increasing the costs of constructing housing. While these types of changes could provide effective mitigation, San Francisco has no ability to take direct actions or to require other jurisdictions to act such that these types of policies would be implemented.

One comment specifically suggests a regional housing mitigation fund. The concept might be similar to the fee proposed for the City's OHPP ordinance. Again, the major issue it that of San Francisco's ability to impose and administer such a program on a regional basis. Major decisions would be required regarding what agency would collect the funds, how the monies would be allocated to projects and jurisdictions, and how San Francisco could monitor the program to assure that the specified conditions were being met.

Such a program (regional housing fund) would probably only work if it were enacted on a region-wide basis. For example, it may be difficult to require San Francisco developers to contribute to a fund to mitigate housing impacts in another part of the region when similar contributions were not being required of developers in those other areas, particularly when the non-San Francisco growth would probably be of more relative importance to the housing market there. As explained in the response to comments on regional housing impacts in Section D.3.2.3, employment growth in other parts of the region will be relatively more important than C-3 District growth to the housing markets in all other counties of the region outside of San Francisco. Further, employment growth in other areas also affects San Francisco's housing market. Thus, without a region-wide program it would be difficult to argue that the regional effects of employment growth in outside areas did not require mitigation while the growth in San Francisco would require such actions.

While the discussion above describes the legal, administrative and practical difficulties for San Francisco to implement regional mitigation measures in areas outside of its jurisdiction, it must be understood that the mitigation actions proposed for San Francisco would have regional implications. The more housing that is built in San Francisco, the less will be the housing impacts in San Francisco and in the region. As described in the EIR and in this response, San Francisco is currently considering adoption of an OHPP ordinance which would provide affordable housing in San Francisco. This would be housing that would not otherwise be provided by the private market. Further, as mentioned above, the City's Residence Element outlines production of housing in and around the downtown area. The City is moving ahead on plans and rezoning to implement these policies.

In response to comments about mitigation measures for regional housing impacts, the following subsection should be added to the EIR text before the notes on p. V.D.10:

> "Regional Housing Production Outside of San Francisco
>
> "Counties and cities throughout the region could institute policies to increase housing production. Examples of such actions could include increases in densities, changes in zoning to allow residential uses in areas where they are now prohibited, reductions in the time required to process project proposals, and/or reductions in fees or requirements to provide infrastructure which have the effect of increasing the costs of constructing housing. Actions of these types would increase regional housing production and add to the ability of the market to produce housing to accommodate the growth of C-3 District employment as well as other employment growth throughout the region.
>
> "Counties and cities might also consider the implementation of programs like San Francisco's OHPP which would establish requirements for development in their jurisdictions to provide housing or to contribute to a housing fund. Such programs would mitigate the housing impacts of local development thereby providing more total ability for the region to accommodate total regional employment growth."

D.5.3 YBC/South Of Market Housing Fund

A commenter has suggested that the YBC/South of Market Housing Fund be considered as a mitigation measure for YBC office development projects and for the "low-income resident displacement impacts" in the South of Market area. This fund, identified in the Supplement to the YBC EIR, would total $5,000,000 and could potentially leverage $25-35,000,000 of additional housing investment. The Redevelopment Agency has agreed to apply this fund in YBC/South of Market towards maintaining existing affordable housing. (Telephone conversation with Tom Conrad, Planning Director of SFRA, August 13, 1984). As this fund was identified as mitigation for YBC office development in the YBC EIR, it is not necessary or appropriate to identify it as mitigation in the Downtown Plan EIR. Also, the Redevelopment Agency has already indicated that it will implement such a fund.

D.5.4 Other Suggestions for Mitigation

To stimulate rental housing production, one commenter suggests that base floor area ratios (FAR) be reduced and that discretionary commercial development bonuses be awarded for the production of rental housing. Bonuses of extra floor area are not being proposed for any amenities in the C-3 District as a matter of policy. Relevant amenities are included as requirements in the Downtown Plan. The Department of City Planning has proposed the OHPP as a means of producing housing, such as rental housing, that would not otherwise be built by the private market.

Incentives similar to those suggested by the commenter are incorporated in the Department's proposed plan for Rincon Hill. The Rincon Hill Plan would permit a developer to build to the maximum height only if a specified percentage of below market-rate units would be built as part of the project. Without the inclusion of these units, a developer would be allowed to build approximately 20 percent less than the maximum height permitted. (Rincon Hill DEIR, page 96).

Another commenter requests that the housing requirement of Alternative 4 be imposed as housing mitigation. That Alternative was analyzed in the EIR (pp. VII.D.1-VII.D.13), and is available for imposition as mitigation, should the City Planning Commission and Board of Supervisors decide to do so. Several elements similar to those of the Alternative 4 housing requirement are incorporated in the Department's proposed OHPP ordinance currently being reviewed by the City Planning Commission. An OHPP ordinance may be adopted by the end of this year.

Several comments suggest that new development be limited to the amount that could be accommodated by increases in the housing supply or capacity of transportation systems. These comments are addressed under the title "Link Development to Transportation Systems and Housing Development" in Section P.2 of the responses to comments.

Other comments ask that the EIR provide mitigation that will prevent displacement. The direct displacement effects following the loss of the housing stock in the C-3 District and adjacent areas due to commercial development and its spillover effects are discussed in Section B.4.2 of the responses. The Residential Hotel Conversion and Demolition Ordinance is intended to limit the extent of the loss of this lower-cost housing resource and thus the displacement of low-income residents. In addition, the Downtown Plan proposes substantial re-zonings of the major residential areas in and near the downtown as well as conditional use review of demolition of the housing stock, pending adoption of an ordinance prohibiting such demolition. These actions could help to mitigate the displacement of residents living in the C-3 District and adjacent areas due to commercial development pressures, as discussed in the response in Section B.4.2.

Section D.3.1 of these responses discusses the housing market forces set in motion by C-3 District growth that can result in the "displacement" of low income residents. To the extent that displacement results from increased competition for the limited supply of lower-cost, more affordable housing, then increased production of affordable housing (such as proposed in the OHPP) as well as increased production of market-rate housing (provided for in the Residence Element) would reduce the displacement pressures on lower-income San Francisco residents. There is no direct means of preventing this kind of displacement, and it could occur even without C-3 District employment growth.

D.6 REVISIONS/ADDITIONS TO EIR TEXT

To clarify the implications of the results of the residence patterns forecasts, the following paragraph should be added after the second paragraph on p. IV.D.77 of the Draft EIR:

> "The second point above is not meant to imply that the changes incorporated into the forecast increases in workers per household are not part of the housing impact assessment. Without additional housing and households, increases in workers per household represent: (1) more workers in current City and regional households that continue to live in San Francisco or other counties in the region, (2) new households with more workers than the ones they replace, and (3) new households with workers replacing households without workers. The latter two changes could include the effects of gentrification, as described in more detail below in the discussion of the implications of increased demand for housing. The increase in workers per household reflects adaptations to housing costs (e.g., more workers living together for housing affordability reasons) and demographic and lifestyle changes (e.g. more women who work and the age distribution of the population), among other factors. Some of these changes would represent "negative impacts"; others would not. Finally, all such changes clearly are not attributable to employment growth. They reflect broad demographic, lifestyle, housing market, and other factors affecting labor force participation and household formation."

In response to comments on the Draft EIR, the following two subsections should be added to the text on p. IV.D.77, before the section "Implications for Housing in San Francisco".

"Role Of Residence Patterns Forecasts In Analyzing Future Housing Market Conditions

"The residence patterns forecasts presented above provide a means of describing the most likely outcome for employment growth and housing. These forecasts, moreover, are cumulative--incorporating both C-3 District and non-C-3 District employment growth as well as potential housing supply parameters for each Bay Area county. By themselves, residence patterns do not describe housing impacts for the City or the region.

"The residence patterns forecasts identify the numbers of C-3 District workers expected to live in San Francisco and in the other counties of the region. The forecasts also account for the need to house other future employment growth in the region. Implicit in these forecasts are: consideration of the use of the existing stock (how future occupants could differ from current occupants, how the characteristics of the current occupants could change, i.e., more workers, more income), the location and relative price/rent of new housing, the household incomes and ability of C-3 District workers to pay for housing, the adaptations households might make to secure housing, and the on-going re-shuffling of new and old residents and workers throughout the region, as people move within the region for a variety of reasons.

"The residence patterns forecasts are the basis for conclusions about how C-3 District employment growth would affect likely future housing market conditions. Analysis of the characteristics of future employment growth, of the amount and location of future housing production and existing housing supply (throughout both the City and the region), of the relative level of prices/rents among Bay Area locations and of worker propensities for various residential choices is the basis for forecasting the outcome and also for assessing what adaptations and other changes would occur in the process. The residence patterns forecasts provide a context for assessing the extent to which these adaptations and changes are impacts of growth. The analysis also considers how these changes in housing market conditions would affect various groups of consumers, including how the circumstances of existing residents could change.

"Residence Patterns Are Quantified; Housing Market Impacts Cannot Be

"There are many factors affecting changes both in the demand for housing and in what households pay for housing. These include demographic and income characteristics (the age distribution of the population, household size, household lifecycle), mobility and migration, general economic conditions, lifestyle preferences, and employment growth. The list above is not exhaustive. The system of interactions affecting any one housing market (such as San Francisco's) is complex. Moreover, San Francisco is one part of a larger regional housing market in which people choose places to live and work among locations throughout the region.

> "There is a relationship between employment growth (such as that accommodated in the C-3 District as a consequence of local planning and zoning policies) and the local housing market. Appendix I begins with a theoretical description of the relationship between employment growth and housing markets (pp. I.1-I.8). Although the relationship can be described, it cannot be quantified. It is not possible to isolate and measure the effect of only one of the many factors (described above) affecting the City's housing market.
>
> "The separate contribution of employment growth to past changes in housing prices/rents, the number of units upgraded or replaced, the increase in the percentage of income spent on housing, and the number of households displaced cannot be quantified. It cannot be forecast for the future, even holding the contribution of other potential factors constant. Moreover, all of the contributory factors will not remain constant and will have more of an effect on future housing market conditions than will employment growth. Forecasts of future housing market conditions on the basis of all of the contributory factors do not exist and would be very difficult to prepare with a reasonable degree of accuracy. The residence patterns forecasts are quantified and provide the basis for the following qualitative conclusions about the housing market implications of C-3 District growth."

In response to comments on the Draft EIR, the discussions of San Francisco and regional housing market implications should be expanded. The following replaces the text beginning on p. IV.D.77 of the Draft EIR. Not all of this discussion is new. The following pages include all of the material on pp. IV.D.77-IV.D.82 of the Draft EIR. The new material is added in a variety of locations on those pages; therefore, to preserve the sense of the discussion, the original text and the expansion are presented here together. (As part of these changes, notes 60 and 61 in the Draft EIR are deleted; note 62 becomes note 60.)

> "Implications for Housing in San Francisco
>
> Housing Market Context
>
> "Since the early 1970's, housing prices and rents have increased dramatically in San Francisco and throughout the Bay Area. Demand for housing has been strong and supply has not kept pace with demand in many areas. In addition, in the early 1980's there were major changes in financial markets which substantially increased the cost of money for housing. Many different factors contribute to the current housing market situation. These include changing lifestyles, changing demographic and household characteristics, changing household incomes, employment growth, the attractiveness of the Bay Area as a place to live, the availability and cost of financing, the attractiveness of real estate as an investment, the implications of Proposition 13 on the costs of developing new housing, no-growth policies in some communities, and the increasing scarcity of land in other communities.

"As a result of all of these factors, many households now allocate a greater share of their financial resources to housing, and the housing choices available at various prices and rents have changed. Many people cannot now afford the housing they prefer and many are not housed at the standard that, until recently, they had come to expect. For example, many live with smaller units, fewer rooms, or in different neighborhoods than they would like.

"There is strong demand for San Francisco housing relative to the supply of housing in the City. Many households currently living elsewhere in the Bay Area have preferences for San Francisco housing. Those who move into the region also include many households with preferences for City housing, including, for example, immigrants/refugees for whom San Francisco is a traditional entry point to the U.S. This competitive market situation is expected to continue to exist in San Francisco for many reasons in addition to employment growth.

"These market pressures explain the high housing prices and rents in the City. Despite rising housing prices and rents, however, the private market continues to be unable to produce enough new housing to relieve competitive pressures. Although the difficulties in producing affordable housing arise from many factors and exist throughout the region, it is, relatively speaking, more costly to produce housing in San Francisco than in many other parts of the region. The high land costs and the lack of vacant land in San Francisco (as well as the resultant need to build at a higher density with associated higher construction costs) are responsible for the relatively high threshold level of prices and rents needed to encourage residential development in the City. There is particular difficulty in producing rental housing, since residential rents, unlike for-sale housing prices, have not kept pace with rising construction and land costs or with inflation.

"The housing market context in San Francisco is also defined by the characteristics of the existing housing stock. The City has many older neighborhoods that, as tastes and lifestyles change, have become more desirable. The City's housing supply also includes a relatively large stock of small rental units in old buildings that provide one of the few sources of housing for low income households.

"The Implications of Increased Demand For San Francisco Housing

"The forecasts for the Downtown Plan indicate a net increase of about 35,000 San Franciscans employed in the C-3 District from 1981 to 2000. This total represents increases in both the number of existing, ongoing residents employed in the C-3 District and the number of C-3 District workers who move into San Francisco either because existing residents move out or because of the net addition of housing and households. Incorporated in this forecast is the net addition of 19,200 housing units throughout the City and increasing labor force participation for the City's population overall./58/

"There is a complicated series of interactions between employment growth and the housing market impacts of that growth. Throughout this process, adaptations or changes in conditions can be identified, but, as noted above, cannot be solely attributed to employment growth.

"With continued employment growth there would be additional demand for San Francisco housing from people with strong preferences for living in the City and with the ability and willingness to pay for housing. This demand would be added to an otherwise competitive market with relatively high prices/rents.

"At the same time, additional housing would be produced in San Francisco. There would be more additional supply relative to additional demand in the future than in the past. The primary reason is that housing market factors together with local policies and redevelopment programs are expected to support a larger addition of housing in the City than occurred in the past two decades./59/ Nevertheless, San Francisco is unlikely to accommodate all of the households that would otherwise choose to live in the City. This is explained by the City's role as the employment center for a large region, by the limited land availability in the City, and by the higher costs of producing housing in San Francisco.

"Downtown employment and employment growth will continue to be among the factors supporting a competitive housing market. It is unlikely that changes in housing demand due to C-3 District growth alone would be the cause of significant changes in prices and rents. Future housing prices and rents will depend on other factors besides C-3 District employment growth (such as interest rates and local land use policies and development costs throughout the region).

"Although not all of the additional C-3 District workers would live in San Francisco, some would choose to do so. Many of the additional workers would be willing to pay higher prices for City housing to save on the time and cost of commuting from a more outlying location. Many of the additional workers preferring to live in San Francisco would be able to pay more for housing than some current residents.

"Those workers who choose to live in the City would compete for the existing supply of housing. Those with greater financial resources would support the production of housing by the private market. Those with less financial resources would add to the competition for the stock of housing available at prices and rents below those needed for new construction. To the extent that prices/rents remain below this threshold, the supply of these types of units would not be expanded. Instead, prices/rents of existing units would be somewhat higher, occupancies would be higher (more people per unit because children live at home longer, more people live together, etc., and/or lower vacancies), and there would be pressures to upgrade the existing stock.

"Competitive market pressures would be greatest for rental and for-sale housing priced below average, particularly for units below the threshold prices/rents for new housing production. Increased competition in an already competitive market, the relatively high threshold for new construction, and the large pool of consumers (not just C-3 workers) with preferences for the older housing stock in San Francisco, all would result in more housing consumers seeking these types of units. Housing which could be secured initially at below average prices and upgraded with relatively small financial investment would be particularly attractive in this market. While this type of upgrading would increase the supply of units in one price/rent range (thereby releasing competitive pressures in this segment of the market), it would reduce the supply in the lower price/rent ranges (thereby increasing the competition for remaining lower-cost units in those categories). At the same time, increases in the number of consumers demanding housing in the lower price/rent ranges would further increase the competition for the available supply of units of these types. Often, existing lower-income residents can be "priced-out" of their housing in the upgrading process. The purchase and upgrading of lower-cost older housing is the first step in the process of neighborhood change known as "gentrification".

"Higher prices and rents, particularly for the relatively lower cost housing in older neighborhoods, would have various implications over time, for those in the housing market as well as for other existing residents. Some people would decide not to move into the City and some existing residents would move out of the City for more acceptable housing elsewhere. Many individuals would continue to live in San Francisco and pay higher prices/ rents for the same City housing./60/ Still others, those unable or unwilling to pay more, would accept City housing which does not fully meet their preferences or needs. And finally, owners of existing units would benefit to the extent that their housing appreciates. It is not possible to quantify how many households would be affected in each of these ways.

"When faced with higher housing prices/rents, households which end up with housing which does not meet their preferences or needs might be considered to be "displaced". While displacement might be used to refer to households with no choice but to occupy housing that is below the standard that they would otherwise occupy, displacement might not seem appropriate for those who are similarly housed, but through choices of their own. In many situations, it could be difficult to determine whether a household had no choice but to accept lower quality housing or whether they chose to forego other expenditures, in order to allocate more resources for housing.

"Displacement due to upgrading and gentrification will occur, but not solely as a consequence of the growth of economic activity in the C-3 District. (The displacement of lower income households in the C-3 District and adjacent areas is the impact most readily isolated. This impact is discussed in the Land Use and Real Estate Development impact section, IV.B, where the focus is on the direct effects (on the downtown housing stock and residents) of C-3 District commercial development and spillover in adjacent areas.) There are many other circumstances under which lower income households in San Francisco might move, however. The moves that are the consequence of the gentrification process (when higher income households replace lower income households in a neighborhood) could partly be attributed to the increase in demand for San Francisco housing from those with relatively higher incomes than existing residents, as a consequence of C-3 District growth. Because of the other circumstances and the many adjustments that occur as workers decide to choose new housing, (adjustments in expectations for housing standards, workers per household, share of income to devote to housing, etc.) it is not possible to establish a direct quantitative link between additional C-3 District workers and existing households displaced.

"The scenario described above for future housing market conditions in San Francisco implies that housing affordability will continue to be a problem for many of the City's households. The additional demand due to C-3 District employment growth would add to a future housing market situation in which many households, particularly those with incomes below the threshold needed to support new production, are expected to be paying a larger percentage of their income for housing or accepting less housing services than in the past.

"Generally, those households with fewer financial resources available to pay for housing would make the most sacrifices in adapting to more competitive market conditions. They have less ability to compete for housing and fewer housing options. San Francisco currently has and will continue to attract a large number of persons that will be faced with these difficulties in securing housing. They include renters, younger persons, those holding entry level jobs, the elderly and others on fixed incomes, newly-arrived immigrants as well as other poor and unemployed persons.

"There would be some difference in housing market pressures among San Francisco neighborhoods. Table IV.D.18 and associated text earlier in this section present forecasts of the number of C-3 District workers expected to be living in each of four areas of the City.

"The greatest absolute change between 1984 and 2000 would be in the southwest part of the City (including the Central, Ingleside, Sunset and Buena Vista neighborhoods), primarily reflecting the fact that this is a large area including the largest share of existing housing among the four City study areas. The percentage of C-3 District workers residing in this portion of the City would decline over time, however. In the future, relatively more C-3 District workers are expected to choose housing in the eastern portions of the City. Many would probably choose to live in the new housing supplied in and around the downtown, such as in that expected in the Van Ness Corridor, Rincon Hill, Rincon Point-South Beach, and Mission Bay.

"While the neighborhoods likely to experience the most pressure for either upgrading/gentrification or replacement of housing could be identified based on general assumptions about the characteristics that define such neighborhoods (older housing at below average prices which could appreciate in value with upgrading, larger homes that could be subdivided to provide the owner-occupant with income-producing units, neighborhood character and identity, location, etc.), it would not be appropriate to assign all of this pressure to increased C-3 District employment. Even without C-3 District employment growth, such pressures would exist. To the extent that, comparing the 1984-2000 forecast to the recent past, there would be more new housing produced in San Francisco relative to the amount of C-3 District job growth (due to both greater rates of housing production and slower rates of employment growth under the Downtown Plan forecast than in the past), the future pressures for upgrading/gentrification and replacement of existing housing that might be attributed to C-3 District growth would be less than in the recent past.

"No employment growth or a more limited growth scenario compared to the Plan would not be the end of the competitive pressures in San Francisco's housing market which result in higher prices/rents and gentrification. The market interactions described above would continue to occur because of the strong demand for housing in San Francisco from people who already work in the City but live elsewhere, and from other demand groups. Depending on the characteristics of this demand, many of the same adaptations and impacts would continue to occur.

"The housing market situation in San Francisco arises out of a local, regional and national context. While C-3 District employment growth plays a role, the housing problems of San Francisco residents are not solely due to C-3 District growth. Therefore, this EIR cannot address the broader issues of housing supply and affordability and the housing needs of San Francisco residents (including those related to rental housing); this is the purpose of the Residence Element of the City's Comprehensive Plan.

"Implications For Housing In The Rest of The Region

"Housing Market Context

"Most of the housing market conditions described above for San Francisco are applicable throughout the Bay Area. Increases in home prices and in interest rates during the past decade have raised the cost of ownership housing. As a result, many first time homebuyers and new entrants into the region's housing market now have difficulty affording Bay Area housing. In the rental housing market, a large number of households also face an affordability problem. The lack of new construction and continued strong demand support upward pressure on rents. Among renters, there are many lower income households who are faced with increasing difficulty securing affordable housing. Although these conditions exist to some extent in other parts of the country, the Bay Area remains one of the most desirable places to live and has one of the most competitive housing markets in the nation.

"Housing Market Impacts

"Earlier sections describe the expected future distribution of C-3 District workers among counties of the region outside of San Francisco. This section assesses the housing market implications of those future patterns. While the forecasts incorporate the effects of additional C-3 District workers and the adaptations that would be made to accommodate this additional housing demand, this section describes those adaptations focusing on how C-3 District growth would affect what would otherwise be expected to occur. As explained previously, the housing market implications of C-3 District growth, such as the effects on housing prices and rents or on the share of household income allocated for housing, cannot be quantified.

"Future Regional Perspective On Residence Patterns And Housing Market Impacts. The residence patterns of C-3 District workers and the associated housing market implications were derived within the cumulative context of employment, labor force, and housing throughout the region as described previously. Thus, the EIR analysis accounts for all other regional employment growth and for the ability of the region's housing supply to accommodate this growth.

"For perspective on the role of C-3 District workers relative to other workers in the region, Table IV.D.20 compares C-3 District workers expected to reside in different parts of the region in the year 2000 to the total employed population forecast for each area in 2000. It also provides a similar comparison for the situation in 1980/81.

"The forecasts indicate that C-3 District workers represent a relatively large percentage of San Francisco's employed population and relatively smaller shares of the employed population in other counties of the region. In 2000 as compared to 1980/81, C-3 District workers would represent similar proportions, with small increases.

"Because housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the C-3 District percentages of the region's employed population in each county would not be large indicates that C-3 District workers would not require much larger shares of the region's housing in 2000 than they do now. In other words, a housing stock consistent with local policies could accommodate both future C-3 District workers and future workers elsewhere in the region.

"All of the increase in the employed population of the region that is shown in Table IV.D.20 (including C-3 District workers and all other workers) does not represent a net addition of population, households, or housing in each part of the region or in the region overall. This is primarily because the overall average number of workers per household (for existing households and new households) is expected to continue to increase (although at a declining rate) as a result of increases in labor force participation and changes in how the population groups into households (affected by adaptations to housing costs, lifestyle preferences, foreign immigration and migration patterns, and other factors). The adaptations to housing market conditions incorporated in the forecasts include the effects of employment growth on the region's housing market including the part contributed by C-3 District growth. These adaptations have implications for both worker households and other residents. These implications could include changes in the type of unit occupied (by choice or for housing affordability reasons), more household members contributing to housing expenditures, and changes in the share of income devoted to housing expenditures.

TABLE IV.D.20: C-3 DISTRICT WORKERS COMPARED TO EMPLOYED POPULATION BY COUNTY, 1980/81 and 2000

	TOTAL, 1980/81		TOTAL, 2000			For Each County, C-3 District Workers As A Percent of Total Employed Residents	For Each County, C-3 District Workers As A Percent Of Total Employed Residents, 2000	
County	C-3 District Workers (1981) By Place of Residence	Employed Residents (1980 Census)	C-3 District Workers By Place of Residence	Employed Residents ABAG Forecast	Employed Residents EIR Scenario	1980/81	ABAG Forecast	EIR Scenario
San Francisco	153,700	342,500	189,000	404,000	398,000	44.9%	46.8%	47.5%
Alameda	34,400	514,700	55,000	694,000	700,000	6.7%	7.9%	7.8%
Contra Costa	29,100	305,300	47,000	473,000	460,000	9.5%	10.1%	10.3%
Solano/Napa	2,900	133,300	8,000	240,000	255,000	2.2%	3.3%	3.1%
San Mateo	30,600	313,500	45,000	391,000	405,000	9.8%	11.4%	11.0%
Santa Clara	1,800	661,100	3,000	935,000	950,000	0.3%	0.3%	0.3%
Marin	16,000	116,800	26,000	160,000	170,000	13.7%	16.1%	15.2%
Sonoma	1,800	130,100	3,000	233,000	250,000	1.4%	1.5%	1.4%
TOTAL	270,300	2,517,300	376,000	3,530,000	3,588,000	10.7%	10.7%	10.5%

NOTE: This table presents total C-3 District workers and the total employed population in the region in 1980/81 and in 2000 (not just the C-3 District workers or the employed residents added between 1980/81 and 2000). The numbers of C-3 District workers living throughout the region in 1981 and the forecasts of future residence patterns in 2000 are those developed for this EIR. The small number of workers who would live outside the region are not shown here. The 1980 data for the employed population in the region are from the U.S. Census. There are two forecasts of the region's employed population in 2000. The ABAG forecast is from Projections '83. The EIR scenario was developed for the EIR analysis prior to the release of ABAG's Projections '83 report. Although the estimates are very similar, the EIR figures are slightly higher than the ABAG forecasts, consistent with the EIR's higher employment forecasts for the C-3 District. Both forecasts are shown above to indicate that the percentages reflecting the relative importance of C-3 District workers among all employed residents in each county are nearly the same no matter which forecast is used. As for the base year percentages, the differences in base years (1980 and 1981) introduce only minor inconsistencies in the comparison.

SOURCE: Recht Hausrath & Associates

"Regional Housing Market Implications Of C-3 District Growth. As part of total regional employment growth over the next 20 years, increases in C-3 District employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a competitive regional housing market with relatively high housing prices and rents. By itself, C-3 District growth would make only a small difference in the region's housing market outside of San Francisco. (The variations among locations are discussed later.) If C-3 District growth did not occur and all other employment growth and housing market factors remained as forecast, it is unlikely that the Bay Area's future housing market would be very different from what would otherwise occur with C-3 District growth.

"Recognizing that the overall regional housing impacts of C-3 District growth alone are not large, it is possible to explain the types of differences that C-3 District employment growth would make.

"Housing Market Adaptations to Accommodate Increased Demand. All other things being equal, regional employment growth would mean higher prices and rents for housing than would otherwise be the case in the future. It would also mean lower housing services for some of the region's households. How much difference (higher prices/rents or lower services) depends on other housing market factors besides employment growth (interest rates, land use policies, other demand factors, etc.). It also depends on the amount of employment growth. C-3 District employment growth alone would have less impact than total regional employment growth.

"Housing prices and rents will be higher with employment growth than without it because housing market adaptations must occur to accommodate increased demand. Initially, there will be increased competition for the existing stock. This will mean overall higher housing prices and rents which will eventually support additional housing production. Additional housing will be produced when prices/rents rise enough to justify infill housing replacing lower density development, to justify infill housing on sites previously passed over as less desirable for residental development, to justify the upgrading or conversion of structures that were not being used for housing, and to justify the development of housing just beyond the periphery which heretofore had not been feasible because of its distance from the center and the resultant relatively high transportation costs.

"As new housing is produced, households with higher incomes will be able to secure their preferred housing. They will move into either the new units or into the existing housing vacated by residents who move into the new housing. It is important to understand that the additional households (because of employment growth) do not necessarily end up in the new (additional) housing. The situation is very dynamic; households are constantly moving into, out of, and within the region for a variety of reasons. Thus, there is a constant "re-shuffling" of households among housing units.

"Many households will continue to be unable to afford new housing. (The reasons why the market cannot produce more affordable housing are largely independent of employment growth and primarily reflect such factors as interest rates, land use policies, and construction costs.) The squeeze that develops as these households compete for the now inadequate supply of more moderately priced units (inadequate in relation to increased demand) continues until the escalating prices and rents for existing units result in a number of households ultimately choosing the new units, albeit at a greater cost, thus relieving some of the pressure for units at lower prices and rents. This resolution limits the price escalation, but leaves the prices and rents at a higher level than prior to the accommodation of the growth.

"Increased demand and the resultant higher prices/rents also create pressures to increase the occupancy of existing housing (thereby also reducing the demand for additional units). This can occur with more persons per household or more households per unit. While these adaptations can occur across many market segments, the pressures to make these changes will be greatest for those subgroups with household incomes substantially below the threshold prices/rents for producing new housing.

"Market Adaptations Pose More Problems For Those With Less Resources To Pay For Housing. The effects of higher prices/rents or of reduced housing services (less acceptable housing conditions at the same, or higher, price) are generally greatest for subgroups of consumers furthest from the prices/ rent level at which new housing is provided. Households with less financial resources have less potential for increasing their housing expenditures and less locational flexibility. As a result, lower income households are more likely to be faced with a choice between lower quality housing or increased occupancies as the only feasible adaptation to the market "squeeze".

"It is also the case that higher overall prices/rents for housing could eventually induce somewhat higher wages and salaries (as employers conclude that such increases would help them compete for labor). As this occurs, those who are employed receive some additional resources to cover higher housing costs. Those who are not employed, particularly those on fixed incomes, would not necessarily receive any additional income. Thus, they would be the ones faced with the greatest difficulties in adapting to the changed housing market conditions.

"The stock of affordable housing and of lower priced rental housing, in particular, would come under the most pressure from increased competition, since it is the type that the market cannot produce under current and expected future conditions (with or without C-3 District employment growth). With increased competition (in an otherwise competitive market), there will be strong pressures for higher prices/rents (to some extent limited by the financial resources of the consumers in these submarkets) and for adaptations which result in more intensive use of the existing stock (thereby reducing demand). There will also be pressures to upgrade the existing, older housing stock. This will increase the supply in one price/rent range (thereby releasing competitive pressures) and reduce the supply in a lower price/rent range (thereby increasing competition for the remaining units). As a result of these types of pressures, the consumers in lower-income groups served by the housing stock that cannot be expanded will face the greatest difficulties in the housing market.

"Impacts Are Not Uniform Throughout The Region. The housing impacts of employment growth are not uniform throughout the region. Generally, there will be more effects in nearby communities than in those further from the location of job growth. The main reason is that, all other things being equal, households have a preference for residential locations closer to places of work and can pay more for housing at a closer location because they are not paying the higher transportation costs they would otherwise pay at a more distant place.

"Regarding employment growth in San Francisco's C-3 District, there would be greater effects on housing prices/rents in San Mateo, Marin, Alameda, and Contra Costa Counties than on those of more distant counties. (The most substantial housing market impacts would occur in San Francisco as discussed previously.) These are the counties which now house the majority of C-3 District workers living outside of San Francisco and the ones expected to house the majority of the additional C-3 District workers living outside of San Francisco as a result of C-3 District growth. They are also the counties which overlap most with San Francisco in terms of the housing consumers and submarkets that they serve. Increased competition for San Francisco housing because of employment growth there could result in the shifting of some demand that would otherwise have been met in the City to these nearby counties.

"The comparison between the forecasts of future residence patterns of C-3 District workers and the forecasts of the employed population of each county (shown in Table IV.D.20) identifies the expected importance of C-3 District workers relative to other workers living in the four counties adjacent to San Francisco. This comparison provides one indication of the relative effect of C-3 District workers on the local housing market; C-3 District workers will have the most effect in Marin County followed by San Mateo County, Contra Costa County, and Alameda County in that order.

"There is also variation among areas within counties as to the housing market effects of C-3 District growth, particularly in the East Bay. There would be more effects in communities in the western portions of the East Bay and those to the east of the hills along the BART corridors. Because of the greater potential for expanding the housing supply in the eastern portions of the East Bay, there would be more implications of the housing market effects of C-3 District growth for the existing housing stock and existing residents in the East Bay communities on the west side of the hills.

"An important aspect of the distribution of the housing impacts of employment growth within the region concerns locations where the existing stock of older housing is likely to come under pressure as the market adapts to increased demand. The most additional pressure

> of this type is likely to focus on older neighborhoods in closer-in locations which offer housing at prices/rents which are below average levels but which are not among the lowest priced housing. The housing stock in these areas is likely to become increasingly susceptible to investments in upgrading (often referred to as gentrification). Employment growth contributes to this phenomenon although there are other important factors. In recent years, increasing preferences for central city neighborhoods and older housing, an increase in the types of households with these preferences, and increasing incomes have been contributing factors.
>
> "While this type of upgrading provides housing for one group of consumers it decreases the stock of lower-priced, more affordable housing for those with relatively lower incomes (as explained above). Generally, it is the lower-priced stock which is most difficult to replace, and the households with relatively lower incomes who have the most difficulty paying for housing."

Clarification of Survey Tabulations

Many of the tables in the setting, Section IV.D Residence Patterns And Housing and Section IV.C Business And Employment, present data from the Downtown EIR Employee Survey. This section provides clarification regarding those tabulations and includes additions and revisions to the Draft EIR.

When the Employee Survey was conducted, the probability of selecting C-3 District workers was different than the probability of selecting C-3 District worker households when those households included more than one C-3 District worker. Analysis done since the release of the Draft EIR indicates that the tabulations of survey data for variables which refer to household characteristics (such as household income) can differ depending on whether the results are summarized for C-3 District workers or for their households. The following provides an example of the differences which can arise:

Household Incomes (1981 dollars)	Distribution of C-3 District Workers (Table IV.C.9)	Distribution of C-3 District Worker Households (Table IV.C.9a)
Less than $12,000	13.4%	13.9%
$12,000-14,999	6.1%	6.0%
$15,000-24,999	23.4%	24.9%
$25,000-49,999	32.1%	30.8%
$50,000-74,999	17.8%	17.6%
$75,000-99,999	4.5%	4.4%
$100,000 Plus	2.7%	2.4%
	100.0%	100.0%

The above table shows that 13.4 percent of C-3 District workers have household incomes less than $12,000, while 13.9 percent of C-3 District worker households have household incomes less than $12,000. Similarly, 32.1 percent of C-3 District workers have household incomes in the $25,000-$49,999 range, while 30.8 percent of the C-3 District worker households fall within this income category.

The tabulations of survey data describing household characteristics should be clearly marked as to whether they apply to workers or worker households. The choice of which tabulation to use depends on the purpose for which the data are used and the group to which the data are to be applied (workers or worker households). To provide clarification of the survey tabulations and additional information, three types of changes should be made in the setting sections (IV.C and IV.D) of the Draft EIR.

First, tabulations for worker households should be added to the tabulations for workers in the Draft EIR for those variables where both tabulations are appropriate. Generally, the tabulations of household characteristics showing the percentage distribution of responses (such as the distributions among household income categories shown above) are the ones which can be tabulated for workers and for worker households.

Second, there are some tabulations of household characteristics which are more appropriately done for worker households instead of workers. These are the per-household averages such as the average number of persons per household or workers per household. These types of tabulations in the Draft EIR have been redone for worker households (instead of workers). The revised tabulations should replace those in the Draft EIR.

Third, in some cases, the table titles and text in the Draft EIR incorrectly referred to households instead of workers. The tables in the Draft EIR were tabulated for workers. Revisions should be made to clarify and correct titles or text statements as appropriate.

The additions and revisions presented below do not change the sense of the discussion or the conclusions reached in the EIR. They are provided as clarification and as additional information. Generally, there are only small differences between the tabulations for workers and for worker households. In some cases, there are no differences.

The additions and revisions to the tables are presented first followed by the changes to the text.

Tables IV.C.9, IV.D.3, and IV.D.4 present tabulations of the survey data which describe household characteristics. The versions in the Draft EIR were tabulated for C-3 District workers. However, the tabulations for worker households can also be useful. Thus, these three tables in the Draft EIR should be revised to present only that data tabulated for workers and the titles and notes should also be clarified. Corrected versions are presented over the next several pages and described below. In addition, a second version of each table (Tables IV.C.9a, IV.D.3a, and IV.D.4a) should be added to the EIR to separately present the tabulations for worker households. These tables are also presented herein and clearly marked to differentiate them from the companion tabulations for workers. More specific details about each set of tables are described below.

Table IV.C.9 (from pp. IV.C.24-IV.C.25) should be revised (as shown on the next page) to exclude the per-household tabulations at the bottom of the first page of the table in the Draft EIR. The revised Table IV.C.9 presents only tabulations for C-3 District workers (not households). The note should be revised as shown in the corrected version to clarify this

TABLE IV.C.9: HOUSEHOLD CHARACTERISTICS OF C-3 DISTRICT WORKERS, 1981

		Workers By Business Activity				
Household Composition	Total C-3 District Workforce	Management/ Technical Office	Trade/ Customer Service Office	Retail	Hotel	Cultural/ Institutional/ Educational
	%	%	%	%	%	%
Single Individual	23.9	28	9	31	19	22
Unrelated Individuals	17.5	12	41	23	14	39
Couple - No Children	20.2	21	21	18	14	13
Couple - With Children	25.9	26	25	15	32	17
Single-Parent	7.6	9	3	4	6	7
Two or More Families	2.8	2	1	4	14	1
Other	2.1	2	small	5	1	1

TABLE IV.C.9: HOUSEHOLD CHARACTERISTICS OF C-3 DISTRICT WORKERS, 1981 (Continued)

		Workers By Business Activity				
	Total C-3 District Workforce	Management/ Technical Office	Trade/ Customer Service Office	Retail	Hotel	Cultural/ Institutional/ Educational
	%	%	%	%	%	%
Household Incomes (1981)						
Less than $12,000	13.4	5	43	18	29	28
$ 12,000 - 14,999	6.1	6	3	12	13	7
$ 15,000 - 24,999	23.4	25	12	36	24	25
$ 25,000 - 49,999	32.1	36	13	29	28	32
$ 50,000 - 74,999	17.8	19	25	5	6	8
$ 75,000 - 99,999	4.5	6	1	0	small	small
$100,000 Plus	2.7	3	3	0	small	small

NOTE: The information in this table is for C-3 District employees (not worker households) as tabulated from responses to the Downtown EIR Employee Survey. (See Table IV.C.9a for tabulations for C-3 District worker households.) (See Appendix F for description of the survey methodology.) Employee responses are tabulated by the business activity of their employer. The information is presented to highlight differences among groups. The overall pattern is more accurate than the percentage for an individual group particularly for the trade/customer service office and cultural/institutional/ educational groups where the sample size is small relative to the large variety of types of businesses and workers in these categories. Data are not included here for workers in the industrial group because of the small number of responses received. More detail on employees by county of residence and type of housing is provided in the housing section (IV.D).

SOURCE: Recht Hausrath & Associates

TABLE IV.C.9a: HOUSEHOLD CHARACTERISTICS OF C-3 DISTRICT WORKER HOUSEHOLDS, 1981

	Total C-3 District Worker Households	Worker Households By Business Activity				
		Management/ Technical Office	Trade/ Customer Service Office	Retail	Hotel	Cultural/ Institutional/ Educational
Household Composition	%	%	%	%	%	%
Single Individual	27.6	31	11	35	25	26
Unrelated Individuals	16.0	11	38	20	14	37
Couple - No Children	20.2	21	22	16	14	12
Couple - With Children	24.4	25	26	15	32	16
Single-Parent	7.7	9	2	5	5	7
Two or More Families	2.2	1	1	4	9	1
Other	1.9	2	small	5	1	1
	No.	No.	No.	No.	No.	No.
Persons Per Household	2.55	2.4	2.5	2.4	3.3	2.3
Children Per Household	0.56	0.5	0.4	0.4	1.3	0.6
Workers Per Household	1.59	1.6	1.3	1.8	1.9	1.5
Downtown Workers Per Household	1.17	1.1	1.1	1.1	1.4	1.2

TABLE IV.C.9a: HOUSEHOLD CHARACTERISTICS OF C-3 DISTRICT WORKER HOUSEHOLDS, 1981 (Continued)

	Total C-3 District Worker Households	Worker Households By Business Activity				
		Management/ Technical Office	Trade/ Customer Service Office	Retail	Hotel	Cultural/ Institutional/ Educational
Household Incomes (1981)	%	%	%	%	%	%
Less than $12,000	13.9	5	43	19	30	30
$ 12,000 - 14,999	6.0	6	2	13	11	7
$ 15,000 - 24,999	24.9	26	13	38	22	27
$ 25,000 - 49,999	30.8	35	11	27	30	30
$ 50,000 - 74,999	17.6	19	26	3	6	6
$ 75,000 - 99,999	4.4	6	1	0	1	small
$100,000 Plus	2.4	3	4	0	small	small

NOTE: The information in this table is for the households of C-3 District employees as tabulated from responses to the Downtown EIR Employee Survey. (See Table IV.C.9 for tabulations for C-3 District workers.) (See Appendix F for description of the survey methodology.) Employee responses are tabulated by the business activity of their employer. The information is presented to highlight differences among groups. The overall pattern is more accurate than the percentage for an individual group particularly for the trade/customer service office and cultural/institutional/educational groups where the sample size is small relative to the large variety of types of businesses and workers in these categories. Data are not included here for workers in the industrial group because of the small number of responses received. More detail on employee households by county of residence and type of housing is provided in the housing section (IV.D).

SOURCE: Recht Hausrath & Associates

fact. A companion Table IV.C.9a should be added to present the tabulations for worker households (instead of workers). The percentage distributions (household composition and household income) for households (Table IV.C.9a) show some differences from those for workers (Table IV.C.9). The relationships among business activities are similar however (for example both tables show that the household incomes of office workers and of office worker households are higher than those of retail or hotel workers and worker households). The per-household tabulations (workers per household, persons per household, etc.) are only shown in Table IV.C.9a. They have been recalculated to apply to households. These should replace the earlier figures in the Draft EIR. Those earlier figures should not be used. In addition to the per-household tabulations that were originally in Table IV.C.9, tabulations of downtown workers per household is added in Table IV.C.9a.

Table IV.D.3 (from pp. IV.D.9-IV.D.11) should also be revised (as shown on the following pages) to present only the tabulations for C-3 District workers (not households). The title and note should be revised, as shown in the corrected version, to clarify this fact. Further, the per-household tabulations on the bottom of the second page of the table in the Draft EIR should be deleted. Table IV.D.3a should be added to present tabulations for C-3 District worker households (instead of workers). The per-household tabulations shown in Table IV.D.3a should replace those in the Draft EIR. Generally, the tabulations for worker households show small differences from those for workers. The basic relationships between counties are the same, however. The first page from Table IV.D.3 is not included since those variables only apply to workers and not to their households.

Table IV.D.4 (from pp. IV.D.16-IV.D.17) should be revised (as shown) to present only the tabulations for C-3 District workers (not households). The title and note should be revised as shown in the corrected version to clarify this fact. The tabulation of household members paying for housing in the Draft EIR table should be deleted as shown since it should only be tabulated for households. Table IV.D.4a should be added to present the tabulations for C-3 District worker households. The last two items in Table IV.D.4 are not included in Table IV.D.4a because they only apply for workers and not to their households.

To clarify the tabulations in Tables IV.D.5 and IV.D.6, the following changes should be made. The numbers are not affected so the tables are not reprinted here.

> Table IV.D.5 (pp. IV.D.19-IV.D.20): the title should be changed to read: "SPENDING FOR HOUSING AS A PERCENTAGE OF HOUSEHOLD INCOME, DISTRIBUTED BY HOUSEHOLD INCOME CATEGORIES FOR C-3 DISTRICT WORKERS, 1981". The heading on the column that is second from the right should be changed to read: "Percent of Workers By Household Income Category". Also in this column the values "5", "1", and "1" should be bracketed with relationship to the "13" in the last column, as done in the lower part of the table. Further, a sentence should be added to the note to read: "The data in this table are tabulated for workers not worker households".

TABLE IV.D.3: DEMOGRAPHIC CHARACTERISTICS OF C-3 DISTRICT WORKERS, BY COUNTY OF RESIDENCE, 1981

		Workers By County					
	Total C-3 Workforce %	San Francisco %	Alameda %	Contra Costa %	San Mateo %	Marin %	Other (a) %
Business Activity(b)							
Management/Technical Office	66.9	57	84	88	59	84	96
Trade/Customer Service Office	13.5	15	7	4	24	11	1
Retail	8.6	12	3	6	7	3	1
Hotel	5.2	8	3	1	3	1	1
Other	5.8	8	3	1	7	1	1
Occupation(b)							
Professional/ Technical	27.9	23	43	38	24	36	36
Managerial/ Administrative	16.2	11	19	23	27	33	22
Clerical	35.1	37	35	32	34	23	34
Sales	5.7	7	small	5	3	7	1
Service	4.0	5	2	1	8	small	3
Crafts, Operatives & Other Labor	11.1	17	1	1	4	1	4
Age							
Under 25	11.8	15	11	9	9	2	12
25-34	41.3	43	44	26	34	36	33
35-44	23.3	19	27	37	36	21	31
45-54	13.6	13	8	18	14	21	15
55 Plus	10.0	10	10	10	7	20	9
Median Age	34.0 yrs.	31.8 yrs.	33.8 yrs.	38.9 yrs.	36.8 yrs.	37.3 yrs.	N.A.
Foreign Born							
Yes	27.9	33	21	22	51	10	32
No	72.1	67	79	78	49	90	68
Race/Ethnicity							
Asian	25.4	29	18	20	42	5	24
Black	5.7	5	18	6	5	3	9
White	64.2	61	57	71	46	91	61
Other	4.7	5	7	3	7	1	6
Spanish Origin(c)	6.8	7	7	4	15	6	10

TABLE IV.D.3: DEMOGRAPHIC CHARACTERISTICS OF C-3 DISTRICT WORKERS BY COUNTY OF RESIDENCE, 1981 (Continued)

	Total C-3 Workforce	Workers By County					
		San Francisco	Alameda	Contra Costa	San Mateo	Marin	Other (a)
	%	%	%	%	%	%	%
Household Composition							
Single Person	23.9	30	17	15	14	8	8
Unrelated Persons	17.5	23	13	6	3	20	1
Couple-No Children	20.2	12	23	30	28	42	23
Couple-Children	25.7	20	30	38	45	24	54
Single-Parent	8.8	11	12	10	7	4	10
Two or More Families	1.9	2	3	small	1	1	2
Other	2.0	2	2	1	2	1	2
Household Incomes (1981)							
Less than $12,000	13.4	18	5	5	11	1	2
$12,000 - 14,999	6.1	9	6	4	5	1	5
$15,000 - 24,999	23.4	33	26	15	14	16	15
$25,000 - 49,999	33.4	28	42	50	41	36	56
$50,000 - 74,999	17.0	8	16	18	26	32	19
$75,000 - 99,999	4.0	1	3	7	2	9	2
$100,000 Plus	2.7	3	2	1	1	5	1

NOTE: The information in this table is for C-3 District employees (not employee households) and is tabulated from responses to the Downtown EIR Employee Survey. (See Table IV.D.3a for tabulations for worker households.) (See Appendix F for description of the survey methodology.) The tabulations exclude building maintenance/security workers and construction workers since these groups were not included in the survey sample. The totals for tabulations shown here by place of residence may differ slightly from those tabulated by business activity in Section IV.C due to rounding or to slight differences in missing responses.

TABLE IV.D.3: DEMOGRAPHIC CHARACTERISTICS OF C-3 DISTRICT WORKERS, BY COUNTY OF RESIDENCE, 1981 (Continued)

(a) Includes responses from residents of Solano, Napa, Sonoma, and Santa Clara counties and from residents who live outside the nine-county Bay region. See note 9 for a description of the relative importance to the totals of responses from each county.

(b) Percentages for the total workforce do not agree with those in the employment setting (Section IV.C and Table IV.C.7) because the figures in this table exclude construction and building maintenance/security workers. There also may be some differences in the occupations of the workforce as classified by the employees (this table) or by the employers (Table IV.C.7).

(c) Spanish origin was a separate response from the ethnicity response reported above.

SOURCE: Recht Hausrath & Associates

TABLE IV.D.3a: DEMOGRAPHIC CHARACTERISTICS OF C-3 DISTRICT WORKER HOUSEHOLDS, BY COUNTY OF RESIDENCE, 1981

		Worker Households By County					
	Total C-3 Worker Households	San Francisco	Alameda	Contra Costa	San Mateo	Marin	Other (a)
	%	%	%	%	%	%	%
Household Composition							
Single Person	27.6	38	20	15	17	10	12
Unrelated Persons	16.0	23	12	5	3	16	1
Couple-No Children	20.2	10	22	31	28	44	18
Couple-Children	24.4	15	28	42	42	25	56
Single-Parent	7.7	9	12	7	7	3	7
Two or More Families	2.2	3	4	small	1	1	3
Other	1.9	2	2	small	2	1	3
Household Incomes (1981)							
Less than $12,000	13.9	20	5	3	12	1	3
$12,000 - 14,999	6.0	9	6	3	4	small	1
$15,000 - 24,999	24.9	31	26	13	15	19	18
$25,000 - 49,999	30.8	25	42	52	37	35	60
$50,000 - 74,999	17.6	12	17	18	29	29	16
$75,000 - 99,999	4.4	1	2	9	2	10	1
$100,000 Plus	2.4	2	2	2	1	6	1
	No.	No.	No.	No.	No.	No.	No.
Persons Per Household	2.55	2.4	2.7	2.7	2.9	2.5	3.2
Children Per Household	0.56	0.4	0.8	0.7	0.9	0.5	1.1
Workers Per Household	1.59	1.5	1.6	1.6	1.6	1.7	1.8
Downtown Workers Per Household	1.17	1.2	1.1	1.1	1.1	1.2	1.1

TABLE IV.D.3a: DEMOGRAPHIC CHARACTERISTICS OF C-3 DISTRICT WORKER HOUSEHOLDS, BY COUNTY OF RESIDENCE, 1981 (Continued)

NOTE: The information in this table is for C-3 District worker households (not workers) and is tabulated from responses to the Downtown EIR Employee Survey. (See Table IV.D.3 for tabulations of C-3 District workers.) (See Appendix F for description of the survey methodology.) The tabulations exclude building maintenance/security workers and construction workers since these groups were not included in the survey sample. The totals for tabulations shown here by place of residence may differ slightly from those tabulated by business activity in Section IV.C due to rounding or to slight differences in missing responses.

(a) Includes responses from residents of Solano, Napa, Sonoma, and Santa Clara counties and from residents who live outside the nine-county Bay region. See note 9 for a description of the relative importance to the totals of responses from each county.

SOURCE: Recht Hausrath & Associates

TABLE IV.D.4: HOUSING CHARACTERISTICS FOR C-3 DISTRICT WORKERS, BY COUNTY OF RESIDENCE, 1981

	Total C-3 Workforce	Workers By County					
		San Francisco	Alameda	Contra Costa	San Mateo	Marin	Other (a)
	%	%	%	%	%	%	%
Tenure							
Renter	57.2	74	41	24	38	34	16
Owner	42.8	26	59	76	62	66	84
Type of Dwelling							
Single Family Detached	31.5	12	51	66	59	60	72
Single Family Attached	12.0	14	6	9	12	12	12
Multiple Unit Building (b)	52.3	70	37	24	24	24	8
Other(c)	4.3	4	6	1	5	4	8
Dollar Amount Spent On Housing Per Month(d)							
Under $200	1.4	1	2	3	small	4	small
$200 - 399	20.3	24	19	11	13	13	19
$400 - 599	38.9	46	31	35	23	22	18
$600 - 799	15.0	14	18	15	19	17	19
$800 - 999	7.3	5	8	10	8	20	17
$1,000 - 1,249	7.4	4	12	14	15	3	10
$1,250 - 1,499	3.5	2	3	7	7	4	8
$1,500 Plus	6.2	4	7	5	15	17	9
	No.	No.	No.	No.	No.	No.	No.
Average Number Years Residing At Present Residence(e)	6.09	6.5	4.9	5.9	5.0	7.5	5.9
Average Number Years Residing In Bay Area(f)	16.76	16.4	15.5	17.4	17.3	20.0	19.7

TABLE IV.D.4: HOUSING CHARACTERISTICS FOR C-3 DISTRICT WORKERS, BY COUNTY OF RESIDENCE, 1981 (Continued)

NOTE: The information in this table is for C-3 District employees (not worker households) and is tabulated from responses to the Downtown EIR Employee Survey. (See Table IV.D.4a for tabulations for worker households.) (See Appendix F for description of the survey methodology.) The tabulations exclude building maintenance/security workers and construction workers since these groups were not included in the survey sample.

(a) Includes responses from residents of Solano, Napa, Sonoma, and Santa Clara counties and from residents who live outside the nine-county Bay region. See note 9 for a description of the relative importance to the totals of responses from each county.

(b) Includes responses for 2-4 unit buildings (16.2 percent), 5-19 unit buildings (18.2 percent), and 20 plus unit buildings (17.9 percent). For the total workforce, these responses total 52.3 percent in multiple unit buildings.

(c) Includes those living in mobile homes (0.4 percent), residence hotels (0.5 percent), rooms in private houses (1.5 percent), and other responses (1.9 percent) which often included living with extended family members. For the total workforce, these responses total 4.3 percent.

(d) Includes rent or mortgage payments and, if paid by occupant, utilities, property taxes, insurance, and home ownership fees. The amounts shown here are current dollars at the time of the survey. Thus, they are early 1982 dollars.

(e) For the total workforce, the median number of years at present residence is 3.3 years indicating the effect on the overall average of respondents who have lived at their present residence for many years. See note 10.

(f) Excludes those residing outside the region. See note 10.

SOURCE: Recht Hausrath & Associates

TABLE IV.D.4a: HOUSING CHARACTERISTICS FOR C-3 DISTRICT WORKER HOUSEHOLDS, BY COUNTY OF RESIDENCE, 1981

		Worker Households By County					
	Total C-3 Worker Households	San Francisco	Alameda	Contra Costa	San Mateo	Marin	Other (a)
	%	%	%	%	%	%	%
Tenure							
Renter	57.6	77	42	21	38	32	21
Owner	42.4	23	58	79	62	68	79
Type of Dwelling							
Single Family Detached	33.2	10	49	71	59	62	68
Single Family Attached	10.5	11	6	10	12	10	13
Multiple Unit Building	51.8	74	39	18	24	25	7
Other(b)	4.5	5	6	1	5	3	12
Dollar Amount Spent On Housing Per Month(c)							
Under $200	1.3	1	2	2	small	2	small
$200 - 399	24.0	31	19	11	14	14	26
$400 - 599	35.3	41	31	37	25	23	20
$600 - 799	15.5	14	19	16	17	17	18
$800 - 999	6.8	5	8	10	6	16	16
$1,000 - 1,249	6.9	3	9	13	16	4	5
$1,250 - 1,499	3.5	2	4	6	6	4	10
$1,500 Plus	6.7	3	8	5	16	20	5
	No.	No.	No.	No.	No.	No.	No.
Average Number Of Household Members Paying For Housing	1.62	1.6	1.7	1.6	1.7	1.7	1.7

TABLE IV.D.4a: HOUSING CHARACTERISTICS FOR C-3 DISTRICT WORKER HOUSEHOLDS, BY COUNTY OF RESIDENCE, 1981 (Continued)

NOTE: The information in this table is for C-3 District worker households (not workers) and is tabulated from responses to the Downtown EIR Employee Survey. (See Table IV.D.4 for tabulations for C-3 District workers.) (See Appendix F for description of the survey methodology.) The tabulations exclude building maintenance/security workers and construction workers since these groups were not included in the survey sample.

(a) Includes responses from residents of Solano, Napa, Sonoma, and Santa Clara counties and from residents who live outside the nine-county Bay region. See note 9 for a description of the relative importance to the totals of responses from each county.

(b) Includes those living in mobile homes, residence hotels, rooms in private houses, and other responses which often included living with extended family members.

(c) Includes rent or mortgage payments and, if paid by occupant, utilities, property taxes, insurance, and home ownership fees. The amounts shown here are current dollars at the time of the survey. Thus, they are early 1982 dollars.

SOURCE: Recht Hausrath & Associates

Table IV.D.6 (p. IV.D.23): the title should be changed to read: "C-3 DISTRICT WORKERS WHO MOVED IN THE PAST FIVE YEARS AND WHO OWN THEIR HOUSING - SPENDING FOR HOUSING AS A PERCENTAGE OF HOUSEHOLD INCOME, DISTRIBUTED BY INCOME CATEGORY, 1981". The heading for the column that is second from the right should be changed to read: "Percent Of Workers By Household Income Category". The two references in the note which refer to "C-3 District households" should be changed to "C-3 District workers". Further, a sentence should be added to the note to read: "The data in this table are tabulated for workers not worker households".

Table IV.D.10 (pp. IV.D.33-IV.D.34) presents C-3 District survey data for comparison with Census data. The figures in the Draft EIR were tabulated for C-3 District workers (not households). For comparison with the Census data, tabulations for worker households are more appropriate in some cases. The table should be revised to include household tabulations for some variables as noted by those figures that are underlined in the corrected version of Table IV.D.10 presented herein.

To clarify the text associated with the above tables, the following changes should be made to the Draft EIR in the setting discussion in Sections IV.C and IV.D. These changes are designed to clarify the text. They do not include changes in the sense of the discussion or in the conclusions reached.

On p. IV.C.23, the changes marked below should be made (re-wording is underlined; wording omitted is in brackets).

> "Household Characteristics of C-3 District Workers
>
> "Information was also collected about the households of C-3 District workers [households] in the Downtown EIR Employee Survey. The summary in Table IV.C.9 provides further insights into the nature of the downtown workforce./15/
>
> "Overall, about 41 percent of the workers reside alone or in households of unrelated individuals. Forty-six percent are in married couple households. About one-third [of the] are in households [have] with children./16/ On the average, workers in the C-3 District live in households with [2.7] 2.6 persons, 0.6 children (under 18 years of age), and [1.8] 1.6 workers./17/
>
> "Comparison of the household [demographics] characteristics of workers among business activities indicates no major differences except for hotel workers. Hotel workers [households] are in larger households, with [and include] more families and more children. Of note is the relatively high share of hotel workers in households with two or more families. Hotel workers [households] also have more workers per household, reflecting the effect of two or more families living together and of households with children who are employed.
>
> "The distribution of downtown workers among household income[s] groups is also shown in Table IV.D.9. Household incomes combine the wages and salaries of all household workers as well as income from other

TABLE IV.D.10: DEMOGRAPHIC CHARACTERISTICS FOR CITY RESIDENTS WORKING IN THE C-3 DISTRICT AND FOR ALL SAN FRANCISCO RESIDENTS

	All San Francisco Residents, 1980 %	San Francisco Residents Working In C-3 District, 1981 %
Sex		
Female	50.2	50.6
Male	49.8	49.4
Race/Ethnicity		
White	58.2	61.2
Black	12.7	4.8
Asian	21.3(a)	29.4
Other	7.8	4.6
Spanish Origin	12.3	6.6
Median Age (yrs.)	34.1 yrs.	31.8 yrs.
Tenure		
Owners	33.7	22.7
Renters	66.3	77.3
Location Within San Francisco		
Southeast	27.2	14.6
Southwest	34.4	39.3
Northwest	23.7	31.9
Northeast	14.7	14.2
Household Composition		
Single Person	41.4	38.3
Couple-No Children	21.1	9.7
Couple-Children	13.3	15.4
Single Parent	5.8	8.9
Other(b)	18.4	27.7

TABLE IV.D.10: DEMOGRAPHIC CHARACTERISTICS FOR CITY RESIDENTS WORKING IN THE C-3 DISTRICT AND FOR ALL SAN FRANCISCO RESIDENTS (Continued)

	All San Francisco Residents, 1980 %	San Francisco Residents Working In C-3 District, 1981 %
Household Income	(1979 Income)	(1981 Income)
Less than $15,000	47.5	29.3
$15,000 - 24,999	24.5	31.2
$25,000 - 49,999	22.2	24.4
$50,000 - 79,999	3.9	11.8
$75,000 or more	1.9	3.3
	No.	No.
Persons Per Household	2.19	2.37
Persons Under 18 yrs. Per Household	0.39	0.39
Workers Per Household	1.15 employed persons 1.22 labor force members	1.53

NOTE: The two data sources above can be generally compared although they are not for the same years. The 1980 Census data are from tabulations of files STF-1 and STF-3 prepared by the California State Census Data Center. The 1981 data for C-3 District workers residing in San Francisco are tabulated from the Downtown EIR Employee Survey. It should be noted that the C-3 District data are for workers and households with workers whereas the citywide data are for all residents (employed and not employed) and for all households (with workers and with no workers).

(a) Includes Japanese, Chinese, Filipino, Korean, Asian Indian, and Vietnamese.

(b) Includes unrelated individuals and other households.

SOURCE: Recht Hausrath & Associates

> sources (pensions, investments, tips, etc.). The [households of] workers in office activities tend to have higher household incomes. Retail and hotel workers [households] have lower than average household incomes and include fewer numbers in the higher income categories.
>
> "Comparison between the overall distribution of the household incomes of workers [household incomes] and their wages and salaries (Table IV.C.7) generally indicates that household incomes are higher than wages and salaries. This is expected, since on average, there is more than one worker per household./18/"

In note 17, on p. IV.C.57, the number in the second sentence of the first paragraph should be changed from "0.3" to "0.4" non-working adults per household. In the second paragraph of note 17, the references to tables should be changed. In the first sentence, the reference should be made to "Table IV.C.9a" instead of "Table IV.C.9". In the second sentence, the table reference should be moved to the end of the sentence and should read as follows: "(as shown in Table IV.C.9a)." The third sentence should be deleted.

On p. IV.D.8, the words "and worker households" should be deleted from the second sentence of the first paragraph. In the second paragraph, the phrase "the types of worker households" should be changed to read: "the types of workers".

On p. IV.D.11, the last two sentences of the paragraph at the bottom of the page should be changed as marked (rewording is underlined; wording omitted is in brackets):

> "This pattern is reflected in the fact that among counties the average number of persons per household is the lowest for C-3 worker households living in San Francisco and the number of children per household is also the lowest. [and the number of workers per household is relatively high.] As would be expected, the average number of downtown [C-3 District] workers in households with a C-3 District worker is high[est] in San Francisco./8/"

On p. IV.D.12, the following changes should be made in the first, third and fourth paragraphs, as marked:

> "Among household income groups, the relatively large shares of the workers who reside in San Francisco [include greater shares of households with] have household incomes under $25,000 and of $100,000 and above. Proportionally fewer City residents have household incomes in the $25,000 to $100,000 range, particularly in the $50,000 - $100,000 group. Median household incomes for workers [households] living in the City fall within the range of $15,000 - $24,999 while the medians for all other counties fall in the next higher range of $25,000 - $49,999."

> "Most C-3 District workers residing in San Mateo County live in couple households, and most of these have children. Thus the average household size is high as is the number of children per household. [Household incomes show] Higher than average shares of the workers have household incomes in the $25,000 to $75,000 categories, particularly in the $25,000 - $49,999 group."

> "A high percentage of C-3 District workers residing in Alameda County are management/technical office workers. Over 40 percent are professional workers, the highest percentage of any county. Most fall in the 25-44 years of age categories. Of all the counties, blacks in Alameda County represent the highest share for this racial group. This relatively high share occurs in almost all occupations. There are higher than average shares of C-3 District workers [households include higher than average shares of] in all types of households except single person and unrelated individual households. Over one-half of the C-3 District workers [households] are in couple[s] households, and household sizes are above [about] average. Proportionally large shares of the workers have household[s] incomes from [earn] $25,000 to $100,000, particularly in the $50,000 to $75,000 range."

On p. IV.D.13, the following marked changes should be made in the last two sentences in the first full paragraph:

> "Most [households are] C-3 District workers are in couple[s] households, with and without children. Their h~~H~~ousehold incomes are relatively high, with larger than average shares [of] in households with incomes in the $25,000 - $100,000 range, particularly for those in the $75,000 - $100,000 category."

In the next paragraph, the following marked changes should be made to the sixth sentence and the last sentence:

> "Among workers [households] in Marin, those in couple[s] households without children and unrelated individual households represent higher than average shares, particularly the former group (42 percent of all workers [households] in Marin)"
>
> "Like [After] San Francisco, the average number of C-3 District workers per worker household is higher in Marin than in any of the other counties reflecting the relative importance of San Francisco jobs compared to jobs in the county."

On p.IV.D.14, the first full sentence, the words "and a relatively large share are couple households without children" should be changed to read: "and a relatively large share in couple households without children." The second sentence after this should be changed to read as follows (changes underlined): "The household incomes of these workers generally fall in the middle ranges with the majority having incomes from $25,000 - $49,999."

On p. IV.D.15, in the last sentence of the first full paragraph under the heading "Amount Spent on Housing", the words "demographic characteristics of households residing in each county" should be changed to read: "demographic characteristics of workers and their households in each county".

Also on p. IV.D.15, the last paragraph should be revised as follows (changes marked):

> "For example, the larger share of San Francisco residents spending lower than average amounts on housing reflects the relatively lower household incomes of many workers [households] who are City residents and the larger share of them in smaller, younger households in the City who probably occupy a less than average amount of space (many more in multiple unit buildings than in single family homes, for example). Separate tabulations for owners and renters indicate that for each group, workers [households] living in San Francisco include proportionally more [households] spending lower amounts on housing than does the group of workers [households] residing outside of San Francisco."

On p. IV.D.17, the paragraph at the bottom of the page should be changed as marked:

> "The average number of household members paying for housing is also shown in Table IV.D.4a. These averages tend to be similar to [but slightly lower than] the average number of workers per household. [The difference probably reflects older children living at home who do not pay for housing and secondary wage-earners and/or part-time workers whose incomes supplement household finances and are allocated for expenditures other than housing.]"

On p. IV.D.18, in the first sentence of the first paragraph, "C-3 District worker households" should be changed to read: "C-3 District workers". In the third sentence of this paragraph, the phrase "for lower income households" should be changed to read: "for those with lower household incomes".

Also on p. IV.D.18, in the second paragraph, the first sentence should be changed to read as follows (changes marked):

> "The group of workers [households] who own their housing include proportionally more [households] with higher incomes and more [households] who spend higher than average total dollar amounts on housing than does the group of renters."

In the last sentence of this paragraph, the phrase "worker households" should be changed to read: "workers".

On p. IV.D.22, in the first sentence of the first full paragraph, the word "households" should be replaced with the words: "those workers". In the third sentence of this paragraph, the two references to "renter households" should be changed to read: "renters".

Also on p. IV.D.22, in the first sentence of the last paragraph, the phrase "whether the household moved" should be changed to read: "whether they moved".

On p. IV.D.24, in the second sentence of the first paragraph, the phrase "C-3 District worker households" should be changed to read: "C-3 District workers".

On p. IV.D.32, in the first sentence of the last paragraph, the verb "highlighted" should be changed to "supported". Towards the end of that same sentence, the number "36 percent" should be changed to "43 percent".

On p. IV.D.35, the last clause in the second sentence in the first full paragraph should be omitted: "[about 50 percent higher than the overall City average]."

In note 7 on p. IV.D.83, the words "or households" should be deleted from the second sentence. In the third sentence the words "primary office workers" should be changed to "management/technical office workers".

In the part of note 12 that continues on p. IV.D.85, the example (beginning on the first line of that page) should be changed to read as follows (changes marked): "For example, for a [household] worker with annual household income...."

In note 17, on p. IV.D.86, the first sentence should be changed to read as follows: "Since renters include proportionally more [households with] workers in the lower income categories...."

Note 22, on p. IV.D.87, should be deleted and replaced with the following:

> "/22/ City households with C-3 District workers represent 43 percent of all City households in 1981 based on 1.2 C-3 District workers per San Francisco household with C-3 workers (see Table IV.D.3a), 299,960 households in San Francisco in 1981 (Recht Hausrath & Associates estimate), and 153,670 C-3 District workers living in the City in 1981 (see Table IV.D.9)."

E. TRANSPORTATION

E.1 TRAVEL DEMAND ANALYSIS

E.1.1 Transportation Model

Comments made regarding the transportation model presumed that it was an integrated simulation model that incorporated not only transportation change but also change to land use, housing supply, and employment in an interactive fashion to the City and by extension, the region as a whole. It is also implied by these commenters that this type of City travel model exists and was utilized for the analysis. This is a misconception that was apparently caused by the use of the term "model" which obviously has different connotations to the readers than was meant by the authors.

As stated in the Downtown Plan EIR, the transportation analysis employed a quantitative modeling process. The transportation model used is actually a series of spread sheet program statistical tables. This sort of model is most often described as a statistical model. The model (or in this case the separate programs) permits examination of different outcomes or results in a statistical format. The obvious advantage to using this sort of spread sheet program is to facilitate the manipulation of discrete or aggregate amounts of data.

Developing a data base necessary for simulation-modeling the daily and hourly activities or travel habits of 700,000 San Franciscans and several million more Bay Area residents was not the intent of the transportation analysis for the Downtown Plan EIR. However, it is evident from the comments received that a number of commenters are interested in exactly that sort of analysis. A major study of this type was undertaken in the Bay Area in the mid-1960's by the precursor of MTC (the Bay Area Transportation Study Commission)./1/ The Bay Area Travel Study, or BATS as it is known, was completed in 1969. BATS, and others of its kind (macro-models), were developed in the early 1960's here and elsewhere around the country. They were seen as a response to the opportunities that computer application had for city and regional planning. The goal of BATS was to model regional travel behavior on the regional transportation network.

Development of computers enabled these macro-simulation models to be technically feasible, in that the computers were large enough to hold sufficient data to allow the modeling process to be conducted. The failing of BATS was that it was unable to produce results that matched existing traffic volumes, let alone predict future changes. The kind of primary data that is needed is extremely expensive and time-consuming to collect and update (the five-year BATS study cost $5.9 million in 1969 dollars). Those that underwrote the cost of BATS and other studies were generally disappointed as to the usefulness of these studies./2/ The systems depended on tremendous amounts of original survey data. For this reason, there is little enthusiasm to allocate limited public resources for these expensive computer simulation models. MTC has been continuing this effort to model regional travel behavior since its inception some fifteen years ago. This is a regional transportation activity that is properly the responsibility of MTC as the regional transportation planning organization, not one out of nine counties or one out 101 cities in the region.

Figure J.1, p. J.4 of the EIR, is a flowchart of the transportation model. A commenter has correctly noted that both branches of Figures J.1 appear very similar. The flowchart was prepared in order to show that two separate analyses were conducted. One for the peak hour (which used data disaggregated by C-3 subarea) and another for the peak period (which used aggregated C-3 data).

Some commenters have expressed displeasure with the analysis of change of the transportation impacts among the three target years as presented in the Consultant's Report (i.e. 1984 - 2000 - 1990). The Downtown Plan EIR has used a different format and presents percent change for the intervals 1981-1984, 1984-1990, 1984-2000, and 1990-2000.

Additionally, one commenter has expressed the belief that different portions of the EIR transportation analysis (i.e., transit and traffic) were conducted by independent consultants and are unrelated. The transportation analyses for both the Consultant's Report and the EIR have been conducted in their entireties by one team of consultants under the direction of the same project manager since the start of the public scoping process in 1980.

E.1.1.1 Relationship of Transportation Model to Land Use, Employment, and Housing Forecasts

The "model" discussed in the comment does not exist per se. Rather, the process discussed in the comment is the product of two separate analytical methodologies. The transportation analysis has employed modeling techniques to project future travel. The transportation analysis is linked to the land use, employment, and housing analyses only to the extent that employment forecasts and forecasts of residence patterns of C-3 District employees are used as given data inputs into the transportation analysis.

The EIR approach for forecasting future land use, employment, and residence patterns is based on a conceptual framework of the process of urban economic development. The analytical procedures incorporate a variety of types and sources of data and information concerning past, current, and likely future conditions regarding economic, real estate, demographic, and public policy factors. The forecasting process does not involve a set of calculations or equations which could be computerized and used to predict future conditions for a future year based on the input of data for a prior year, as is suggested by the comments.

The methodology for forecasting future land use, employment, and residence patterns are described in the Downtown Plan EIR. Appendix sections describe the methodology, identify the factors considered, and identify the types and sources of data used (pp. H.1-H.19, G.1-G.30, and I.8-I.33). A concise description of the major components of the process of developing employment and land use development forecasts is presented in the flow charts in Figure H.1 (p. H.10 and repeated on p. G.13) and Figure G.1 (p. G.14). The factors considered in forecasting residence patterns are identified in the diagram in Figure I.1, p. I.10.

Commenters have raised the question, what if the forecasts of land use and employment in the EIR under-represent (by 1.5 or 2 times) the actual C-3 District development activity between now and the end of this century, particularly, if this were coupled with no modal change of the existing or future Downtown workforce.

If the commenters assumptions were to occur, then clearly Downtown would come to a complete standstill. The addition of tens of thousand of cars in Downtown would push the streets and transit into tilt. Fortunately this is not probable. The Downtown Plan constrains development in the C-3 District. Assuming 1.5 to 2 times the forecast growth would assume a higher growth rate than has occurred over the past 15 to 20 years, an unreasonable assumption under the proposed Plan. For jobs to dramatically increase in San Francisco without relation to the entire region, as suggested by the comment, would mean that the job decentralization that the region has been experiencing consistently since the early 1940's would fundamentally change.

Modal choice assumptions as noted in Section E.1.4 made in the Downtown Plan EIR are consistent with local and national experience /3,4/ reflecting an increased transit orientation of workers in San Francisco's Downtown (and elsewhere nationally). If the comments regarding the future rate of Downtown employment growth were accurate, there would clearly be a greater need for transit serving Downtown than that estimated in the Plan and the EIR. The specific order of magnitude of that growth and the transit carriers most affected can not be analyzed from the data used to prepare the Downtown Plan or the EIR. The annual and 5-year growth monitoring program described in Section P.2.3 below will provide an early detection mechanism to monitor the rate of development activity and transportation services to Downtown.

E.1.1.2 Regional Employment and Travel Projections and Downtown Plan EIR Forecasts

A number of comments were received asking that the Downtown Plan EIR travel projections be compared to regional land use and travel projections.

ABAG and MTC future land use and travel projections provide generalized regional travel patterns at the Metropolitan Transportation District (MTD) level. Information developed from these projections was used in the joint preparation of The Downtown Transportation Improvement Program: Working Paper One (hereinafter Working Paper One) by the City, MTC, and ABAG staff. However, as was suggested by the 1981 MTC Travel Survey, information at the MTD level was not appropriate for the subregional area planning needs of the sort required for analyzing the impact of proposed zoning changes in the C-3 District. This was one of the main reasons why the C-3 Employee Survey was conducted.

The survey developed transportation journey-to-work and peak period travel behavior data specific to the C-3 District. The regional travel projections provide information at the MTD level only. The Metropolitan Transportation District #1 (MTD #1), which includes most of Northeastern San Francisco as well as the C-3 District and all of the South of Market, does not especially lend itself to analysis of change within the C-3 District itself. Transit use by employees is, as would be expected, more pronounced at the hub of the region's transit spokes (the C-3 64% versus MTD #1 55%). The MTC and EIR projections of travel behavior appear to be consistent with each other.

Projections made independently for the I-280 Transfer Concept Program (TCP) travel analysis/5/, which utilize ABAG/MTC data and projections, appear within the expected ranges of variation (±10%). Table C&R E.1 compares the I-280 TCP projections against those in the EIR. Since the analysis area for the I-280 TCP study is larger than the C-3 District, the EIR projections appear high relative to the I-280 projections. The major difference is that the C-3 District employment forecasts in the EIR are higher than the projected growth for the C-3 District that is implicit in the ABAG forecasts used for the I-280 TCP study. (See Section B.1.1 for a more detailed discussion of the forecast methodology.)

Working Paper One was not the basis for the economic forecasts on the transportation analysis prepared for the Downtown Plan EIR. An independent analysis of C-3 District employment in 1981 was conducted on the basis of the Downtown EIR Land Use Inventory and Employer Survey; long-term employment forecasts for the C-3 District (to the year 2000) were prepared that were specific to the land use policies of the Downtown Plan and the five Alternatives. These forecasts considered all available data and information on local and regional employment: past trends, changing conditions in the regional distribution of employment, and other long-term forecasts, such as those prepared by the Association of Bay Area Governments (ABAG) for San Francisco and the region, as well as Working Paper One forecasts for downtown San Francisco (an area larger than the C-3 District). Appendix H of both the Consultant's Report and the Downtown Plan EIR includes comparison of the C-3 District 1981 estimates and future forecasts to estimates and forecasts prepared for Working Paper One.

As noted in their comments, ABAG staff believe that the C-3 employment forecasts in the EIR are too high. The use of the higher employment estimate in the EIR provides the CEQA-required worst case posture. (There are a number of public commenters who have indicated that they believe the employment forecasts in the EIR are too low.)

Working Paper One has been questioned by one commenter who apparently believes the report was written by a single City staff member. The report was prepared by the Department of City Planning, as a work product for a multi-jurisdiction study. The project team included staff from both MTC and ABAG, as well as Public Works, Municipal Railway, Public Utilities Commission, and City Planning staff from the City. The employment projections were prepared and provided by ABAG; the employment projections were reported by Standard Industrial Classifications (SIC). The SIC system was developed by what is now the federal Office of Management and the Budget initially for government statistical purposes. Most published employment data and statistics now use SIC codes to report employment by industry group.

Employment tabulated in these standard categories cannot be easily related to business functions and types of space occupied. Consideration of functions and demand for space was a key element of the Downtown Plan EIR real estate development and employment analyses. Therefore, the employment data and forecasts presented in the EIR (not in Working Paper One) most often show employment by "business activity". Table IV.C.4 and IV.C.5 in the EIR do show estimates of C-3 District employment by SIC in order to compare these estimates to the data available on total City employment. (See pp. IV.C.7-11 and pp. H.2-4 for more discussion of the employment classification system developed for the Downtown Plan EIR.)

TABLE C&R E.1: COMPARISON OF OUTBOUND PEAK-PERIOD TRAVEL DEMAND, I-280 TCP AND DOWNTOWN PLAN EIR FOR THE YEAR 2000

East Bay Corridor	Downtown Plan EIR Demand	Range of I-280 TCP Demand	I-280 TCP Baseline Unconstrained Demand
Auto (a)	19,330	18,600- 25,100	22,800
Transit (b)	61,100	42,900- 59,700	47,600
North Bay Corridor			
Auto	14,850	14,400- 17,400	16,000
Transit	14,400	9,500- 14,600	10,500
Peninsula Corridor			
Auto	32,420(c)	26,600- 32,600(d)	30,400(d)
Transit	25,300	21,500- 30,300	22,800
Total Suburban Demand			
Auto	66,600	59,600- 75,100	69,200
Transit	100,800	73,900-104,600	80,900
San Francisco Corridor(e)			
Auto (Surface Streets)	N/A	74,300-80,300	75,300
Transit (Muni)	71,600	52,300-65,300	51,500

(a) Vehicle trip-ends
(b) Person trip-ends
(c) At the San Francisco - San Mateo County Line
(d) North of the interchange of US-101 and I-280
(e) The results of the San Francisco Corridor analyses are not comparable because of differences in the basic analysis areas within San Francisco used in the two studies.

SOURCE: I-280 Transfer Concept Program Working Paper 1.5.6, Travel Demand Forecasting/Analysis, Table 11-16, p.11-36; Draft Environmental Impact Report for the Downtown Plan, Table IV.E.2, p.IV.E.29, and Table IV.E.3, p.IV.E.35.

E.1.2 Calibration and Validation of the Transportation Model

As described on p. IV.E.2 of the EIR, the transportation model consists of three major components. Figure J.1, Appendix J (p.J.4) of the Downtown Plan EIR, illustrates the relationship of the three components and cites the sources of all data used in the transportation model. As discussed on p.J.11-15 of the EIR, the transportation model was calibrated using 1981/82 transportation data. The validation process for the model involved testing the accuracy of the model's results against actual field measurements of transportation conditions. Because of the type of model used, the only validation of the model necessary was to show that the model could accurately reproduce a set of measured conditions starting from a synthetic data base (i.e., an estimate of C-3 District employment). Thus, testing the model with 1975 data (or any other earlier date) would not produce relevant results, especially since the necessary transportation data for the 1975 conditions do not exist. (See Section P.2 for a discussion of the monitoring program proposed for five-year intervals.)

The results of the model, data, computations and other background materials are available for inspection and explanation at the Department of City Planning, 450 McAllister Street, Room 501 during business hours by appointment.

Commenters have suggested that current year data (1984) be resampled and compared against the 1984 projections. The transportation volume and modal changes projected to occur between 1981 and 1984 are expected to be minute, Table J.5 (pp. J.16 of the EIR) provides this comparison. Resampling C-3 District employees within five years would not show journey-to-work change within the statistical tolerance of the data.

As to whether or not the model has been successful in predicting 1984 transportation conditions, sufficient time has not yet elapsed to determine the 1984 conditions. With regard to general trends, the model has predicted slightly more transit use and slightly less auto use at the regional gateways (screenlines) to the North Bay and the East Bay than has been shown to be the case so far in 1984. However, the data vary by corridor and five corridors (four for San Francisco and the Peninsula) do not yet have data relevant for comparison.

The DEIR, including the transportation impact analysis modeling process and data output of the model, has been widely distributed to the professional transportation community in the Bay Area. The conspicuous lack of critical comment from transportation professionals may be construed to mean that there is general acceptance of the methodology employed.

Commenters have questioned the assumptions of the non-work travel distribution used in the analysis. Absent any other local travel distribution studies or analysis, published national studies provided the basis for this assumption of an even inbound/outbound split for non-work travel. The published trip generation references for various types of retail and commercial land uses that provided the p.m. peak inbound/outbound directional travel splits are listed in Table J.1, Appendix J of the EIR.

A comment was received regarding the traffic assignment methodology employed in the transportation analysis. The comment indicated that the Bay Bridge component of C-3 traffic might be under-estimated in the impact analysis as a result of the methodology.

With regard to the determination of C-3 traffic on the Bay Bridge, the analysis considered the effects of congestion at various points in the downtown and relied, not upon a single access point, but upon analysis of all the access points to the bridge including the Central and Embarcadero Freeways. Appendix J of the EIR and the supporting documentation contain further explanation of this analysis. The increase or decrease in automobile usage on the Golden Gate and Bay Bridges does not relate directly to an increase or a decrease in auto traffic in downtown San Francisco. For example, at least half of the p.m. peak-period "Bay Bridge" traffic originates in areas other than downtown San Francisco (pp.J.20-21). A more relevant source on all Downtown traffic is the 1983 San Francisco Cordon Count (JHK and Associates, July 1983). As noted on p. 3-3 of the Executive Summary, "Vehicle traffic has decreased slightly since 1965 . . . This reverses a trend of steady traffic increase since 1947 . . . in contrast, person trips crossing the cordon line have increased . . . since 1965."

Commenters have correctly noted that expected Muni ridership increases will not match C-3 employment increases. As described in Section IV.D of the EIR, the San Francisco housing stock is not expected to grow at the same rate as C-3 employment. Thus, the percentage of C-3 workers who are also San Francisco residents is expected to decline somewhat from the present. This is the reason that the growth rate for Muni ridership is projected to be lower (26%) than employment (38%).

A comment was received indicating that auto use (based on gasoline sales) and San Francisco population were declining while traffic was increasing. Between 1970 and 1980, the total population decreased by 37,000 while the number of households increased slightly. The 1970 and 1980 census indicate that automobile ownership per household increased from 0.77 (1970) to 0.91 (1980). Reduced gasoline sales are probably more indicative of the overall increase of newer more fuel efficient cars now on the road, rather than decreases or increases in auto use.

E.1.3 Transportation Data Base

Comments have been made that the EIR analysis is inaccurate and misleading, owing to the reliance on "old data" (three or more years). Data collection is a time consuming and expensive task; as a result, current year data is almost never available. If there were tremendous changes, year to year, this could present some difficulty in the use of "old data". The analysis took this into account by using growth factors (derived from the following sources) and applying them to the "old data". Typically, however, real change in observed annual transportation volumes amount to minute percentage increases or decreases (from less than one percent to three percent). The data used in the EIR is nearly all from 1981-82. That timeframe was chosen in order to best match the timeframe of the C-3 Employee Survey.

The data base that was developed for the EIR analysis utilizes the following sources: the regional highway network serving San Francisco; the regional transit network serving San Francisco; origin and destination and trip generation travel data for C-3 workers and visitors (developed from original travel surveys conducted in the C-3 District). Because travel corridors into the City are clearly delineated, the origin-destination data was translated into regional travel demand, compared to actual observed volumes, and adjusted (calibrated) until the projected demand "fit" the observed volumes. This type of transportation modeling is in more than one sense, the meat and potatoes of transportation planning and engineering. This procedure is common to all studies that employ transportation models./2/

As non-C-3 origin and destination travel data is not available on a complete or even partially complete network basis, the analysis examined empiric growth rates of the region's highway and transit networks. These background volumes were assigned to projected volumes yielding the existing and proposed conditions. The specific description of this work is found in Appendix J. The specific output is described on pp. J.20-25 of the EIR.

The analysis of historic trends in travel patterns is from the following sources: Metropolitan Transportation Commission, Travel Observations of the Bay Bridge Corridor, October 21, 1981; Homburger and Dock, Trends in Traffic Patterns at the Bay Bridge and Caldecott Tunnel, U.S. Department of Transportation, DOT-BIP-WP-32-3-77, July 1977; telephone survey of 500 drivers conducted in April 1980 by Golden Gate Transit, data supplied by Alan Zahradnik, Transportation Planner, on February 16, 1983; Office of the Auditor-Controller, Comparative Record of Traffic for the Month of November, May 27, 1937 through November 30, 1982, Golden Gate Bridge, Highway and Transportation District; San Francisco Municipal Railway Planning Division, Projections of Future Muni Demand and Vehicle Requirements, October 1982; San Mateo County Transit District; SamTrans Five-Year Transportation Development Plan: 1983-1988, April 1983; California Department of Transportation, CalTrain Caltrans/Southern Pacific Peninsula Train Service Five-Year Plan 1983-1988, July 1983; and traffic volume counts from Department of Public Works, Bureau of Engineering, Division of Traffic Engineering and from 1983 San Francisco Cordon Count, JHK and Associates, July 1983.

Comments have been received questioning whether the DEIR analysis considered existing travel conditions acceptable. The setting portion of the transportation analysis describes existing conditions without judging their acceptability. CEQA requires that the analysis of impacts identify change from existing conditions, not "acceptable" conditions. In recognition of the fact that some existing conditions are less than desirable, the Downtown Plan recommends actions that would provide both for future travel increases and for improvement of existing conditions. The Downtown Plan and its companion EIR both recognize that increased employment necessitates increased travel access. The Plan, with its Implementing Actions, and the EIR's Mitigation Measures identify activities and physical improvements that would, if partially implemented, maintain existing conditions. To the extent that additional measures are implemented, access would be improved over current conditions.

A comment was received suggesting that radio broadcast traffic observations be used for the EIR traffic analysis. The EIR used traffic data that allowed for historic comparability. Unfortunately, however descriptive radio traffic broadcasts are, they do not represent the most scientific manner of traffic observation or measurement. "Windshield surveys" simply do not have the same accuracy as a manual or mechanical counts which are the basis of CalTrans' data collection efforts. "Windshield surveys" are useful for impressionistic data collection only. Radio traffic reporters, as noted by one reporter, consider that their only technical transportation skill is to take off or land an airplane safely./6/ As a final note, radio broadcast data are not maintained or archived for future use.

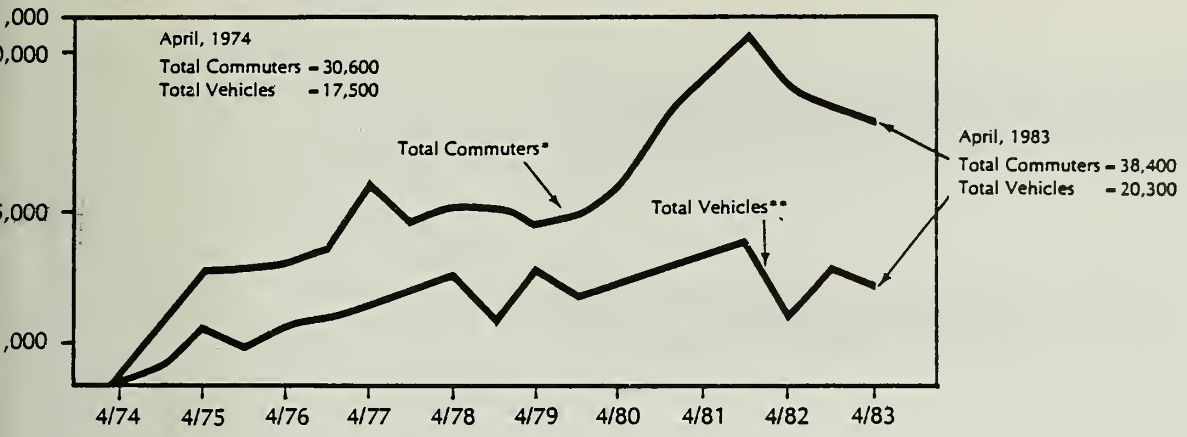
Comments have been received that question the use of the p.m. peak period for the analysis as opposed to analyzing the a.m. peak period. There is nothing inherently better or worse implied by selecting a p.m. travel analysis over an a.m. Both measure inherently different components of regional travel. Each has its advantages and disadvantages as a travel time boundary. The a.m. period has mostly commuters on the roads and transit. It shows less local and regional background travel from non-work sources and thus commute travel is more pronounced. The p.m. period on the other hand has many more people traveling than simply commuters. It shows greater regional non-work travel, so that the actual travel demand is much higher relative to system roadway and transit capacities.

As discussed on pp. IV.E.2-3 in the EIR, an a.m. analysis best measures congestion coming into the City; however, even at its most constricted point (westbound traffic at the "Bay Bridge" toll plaza) only half of that traffic is bound for Downtown. The rest of the traffic (background volumes) are bound everywhere and anywhere, to either other portions of the City or the region. Downtown-generated street traffic impacts are most concentrated in the evening commute. The regional transit travel is most concentrated during the evening commute period. For these reasons, the evening commute period was chosen for detailed analysis.

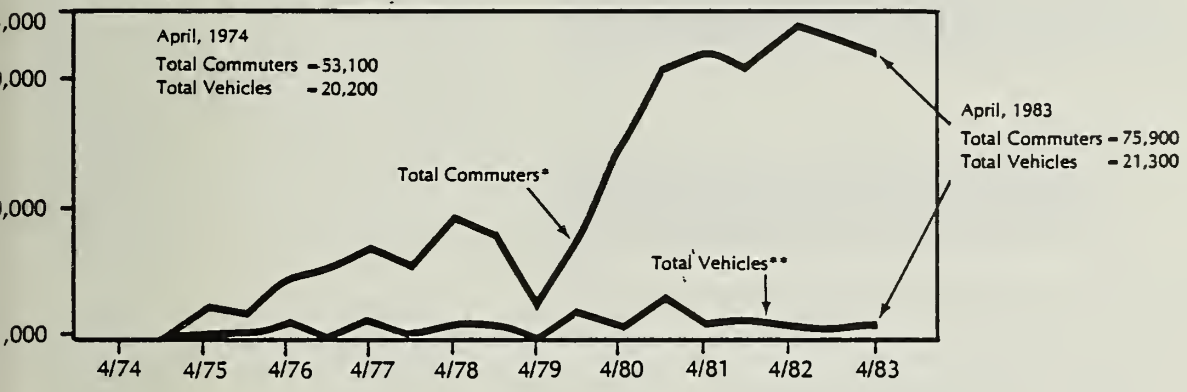
E.1.4 Mode Shift Rationale

Commenters have expressed concern over the appropriateness of projected modal shift. The presumption that people change modes has been validated in a number of empirical studies/3/ performed over the last ten years. For example, Figure C&R E.1, "Growth in Total Vehicles versus Growth in Total Commuters during the Peak Period" taken from the Regional Transportation Plan (MTC, 1983), shows that increases in regional travel have been accommodated without corresponding increases in auto travel. The Bay Bridge is particularly notable as total commuters have increased from 53,100 to 75,900 between 1974 and 1983 with only a 1,100 vehicle increase. As can be seen in Figure C&R E.2, the 1983 San Francisco Cordon Count (prepared for the San Francisco Department of Public Works by JHK and Associates in 1983) shows the same trend. Between 1965 and 1983 there was a 4% decrease in auto traffic, while Downtown grew by approximately 30 million square feet of office space, an approximate 100% increase in office space, and by 100,000 workers.

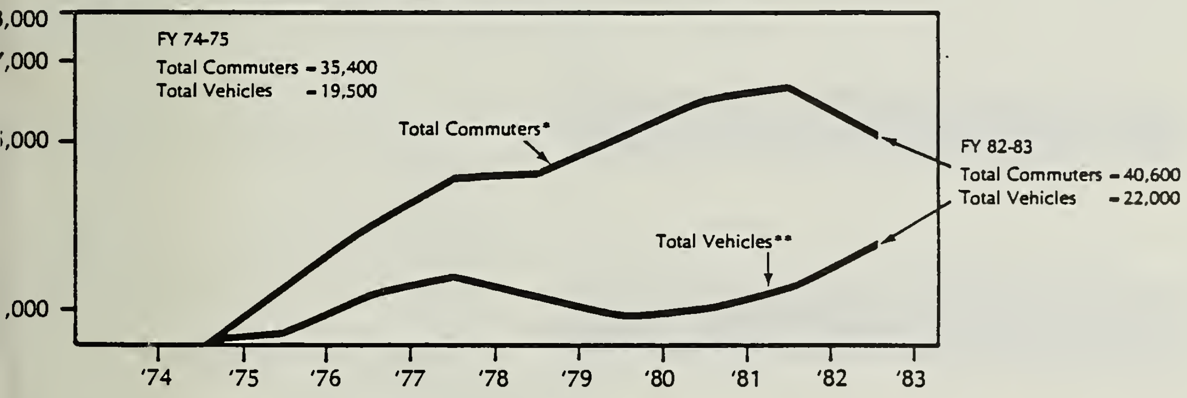
Caldecott Tunnel, Westbound, 6:30-9:00 A.M.



Bay Bridge, Westbound, 6:30-9:00 A.M.



Golden Gate Bridge, Southbound, 6:00-10:00 A.M.

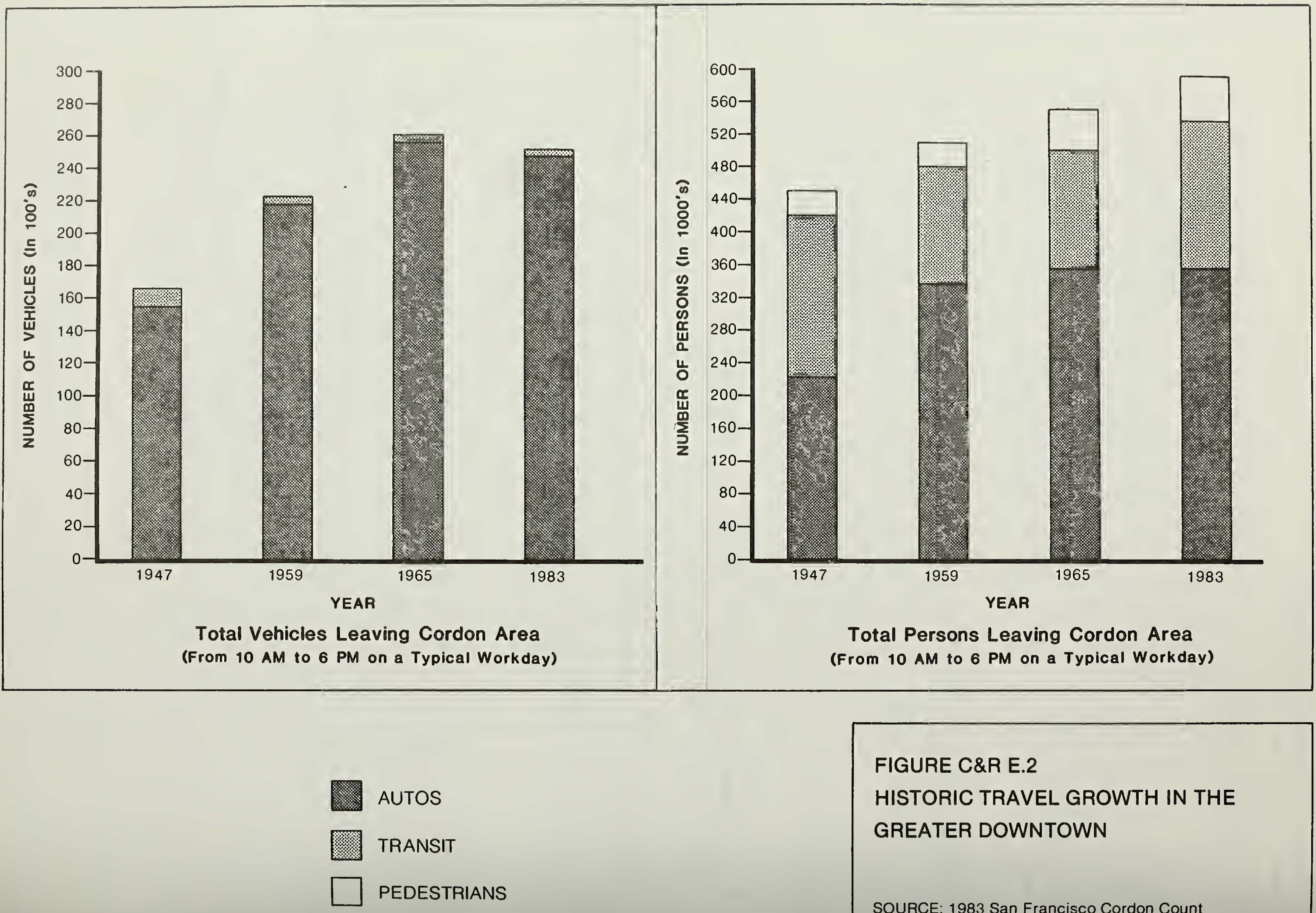


*"Total Commuters" includes vehicle driver, vehicle passenger and transit riders.

**"Total Vehicles" includes passenger cars, trucks and buses, but not BART trains.

FIGURE C&R E.1
GROWTH IN TOTAL VEHICLES VERSUS
GROWTH IN TOTAL COMMUTERS
DURING PEAK PERIOD

SOURCE: 1983 Regional Transportation Plan, MTC



Total Vehicles Leaving Cordon Area
(From 10 AM to 6 PM on a Typical Workday)

Total Persons Leaving Cordon Area
(From 10 AM to 6 PM on a Typical Workday)

FIGURE C&R E.2
HISTORIC TRAVEL GROWTH IN THE GREATER DOWNTOWN

SOURCE: 1983 San Francisco Cordon Count
JHK & Associates

Recent research has been conducted that examined and tested the statistical correlation of socioeconomic data with corridor travel demand by mode. As reported in "Correlation of Socioeconomic Factors with Corridor Travel Demand" (Transportation Research Record 499, pp. 34-44, Transportation Research Board, 1983), a study of travel behavior in Vancouver, B.C., showed that there are possible interrelationships between socioeconomic characteristics such as travel time, travel costs and frequency of transit service, and the propensity of individual travellers (commuters) to change travel modes. Findings of the study were consistent with the concept that individuals will choose travel modes on the basis of minimizing travel dissatisfactions. The findings are also consistent with the empirical observations that are used as the basis of modal shift. While traffic congestion per se was not one of the variables tested in the study, travel time and travel cost are analogous variables.

The transportation analysis, including traffic, did not assume as a precept that there would be total achievement of the Downtown Plan goals. Rather, the impact analysis provides an independent appraisal of the effects of continued Downtown development on the transportation system with a more modest increase in transit capacity than assumed in the Plan. Without the inclusion of mitigation measures, it was determined that the modal split goals of the Downtown Plan would not be fully met. With mitigation measures, the modal split goals could be accomplished.

A static (unchanging over time) modal split would not provide a worst-case for the horizon years. A static modal split implies a static residential distribution and a static transit supply; this is implausible in a dynamic environment. The transit and auto assignment (as discussed in Appendix J) was conducted on the basis of transit system expansion and highway capacity constraints. It would be imprudent to assume increased service capabilities on transit and static highway capacity without a minor modal reassignment.

If, however, the future modal assignments remained fixed at current levels the resulting impact analysis would not be the most conservative, in that it would underestimate transit ridership demands and overestimate auto use.

Therefore, the suggested approach would yield a worse-than-worst-case scenario that is not based on experience of the last twenty years. In short, it is an improbable scenario.

E.1.4.1 Goals of the Plan Regarding Modal Split

Comments were received indicating that the discussion of planning goals had no appropriate place within the EIR. The practice of city planning, as it has evolved over the last fifty years has always been goal based. Planning objectives and implementing actions are always a derivation from the stated policy goals. To the extent that environmental analysis has a place within the practice of planning, it must consider the Goals and Objectives of the Comprehensive Plan. Both CEQA and NEPA require consideration of local and regional plans (therefore Goals) in the preparation of environmental analysis.

An additional comment was received asking for the basis of the ridesharing and transit use goals that are stated in the Downtown Plan. The specific percentage increases that are called for in the Plan represent the necessary modal shift that would be needed to accommodate projected C-3 District employment in 2000 without disruptive traffic increases.

The Goals discussion was included on pp. IV.E.21-22 of the EIR to provide some perspective on the worst-case analysis in the impacts discussion covering cumulative impacts using the Downtown Plan EIR method. This perspective is also provided on p. I.E.5 of the EIR regarding parking impacts. These Goals are implementing actions proposed in the Downtown Plan (see pp. 111-144 of the Downtown Plan) and are therefore part of the project described in the Downtown Plan EIR (they are discussed in detail in the Mitigation Section of the EIR, pp. V.E.4-28).

Accomplishment of the goals was not assumed in the analysis of the transportation impacts of the Downtown Plan EIR in order to provide a worst-case analysis in that the transportation improvements which would enable the Goals to be met might not be undertaken. The future transit supply assumed as a worst-case analysis the vehicle acquisition portions of each of the transit carriers 5-Year Plans and BART improvements which were essentially underway (e.g. Wye track in Oakland, and the Colma turnaround).

This does not mean that the Plan Goals for transportation are pure speculation or "wishful thinking." An evaluation of the Downtown Plan transit-related policies and implementing actions by a transit finance expert indicates that the Plan's goals are reasonable and are likely to be met (see A. Lee Knight, "An Analysis: The Financial Feasibility of Public Transit Recommendations in the San Francisco Downtown Plan," February 1984, pp. 6-7). In addition, analysis indicates that only some of the transportation improvements need to be undertaken to deal with the impacts identified in the Downtown Plan EIR and to meet the Goals of the Downtown Plan (see proposed amendments to the Downtown Plan, p. 23). As noted in this analysis, the only three capital projects included in the Goals that are needed to accommodate Downtown growth are the Muni Metro turnaround, the Muni Metro extension to Fourth and Townsend Sts., and the BART turnback facilities in Colma, south of the Daly City BART station (this latter project is currently underway and has been included in the transit analysis in the EIR). The Goals were mentioned in the impacts discussion to provide a perspective on the future if the Downtown Plan were adopted and implementing actions occurred; their mention does not invalidate or bias the impacts analysis.

National empirical data published in Public Transportation and Land Use Policy shows strong linkages between increases in transit ridership and size and density of downtowns./3/ This data is consistent with assumptions and the Goals of the Downtown Plan that increased travel demand caused by Downtown employment growth can be accommodated by change in journey to work mode choice.

E.1.4.2 Travel Time Changes

Commenters have indicated that they are concerned about increased travel time between various portions of the region and Downtown, and increased costs for journey to work trips as impacts of Downtown growth. Specifically, one commenter expressed the belief that persons commuting to San Francisco from the East Bay would experience three-hour commutes each way and that AC Transit would cease to be effective since buses would experience substantial delay at the Bay Bridge toll plaza.

As a general statement, average individual journey-to-work trip travel times have remained remarkably constant over the last one hundred and fifty years at 30 to 40 minutes, despite the fact that distances between home and the work place have increased dramatically./7/ This trend has been construed to mean that technological advances (i.e., increased travel speed) have allowed workers to live further away from their jobs. Both the 1980 Census and the C-3 Employee survey support the average commute travel times of about 30 minutes each way. Obviously, there are commuters travelling for longer than 30 minutes to reach Downtown, just as there are commuters with much shorter travel times. However, the clustering of about 30 minutes is indicative of a general pattern of resistance to long commutes. Commute times of new employees in the Downtown would be highly dependent upon housing availability and thus less dependent upon delay encountered during the commute. For these reasons, it is not expected that the time associated with typical average commute trips (especially for those 250,000 existing employees) would dramatically change over the next sixteen years.

The EIR, pp. IV.E.32 & 34, discusses the qualitative changes expected in the commute periods in 2000. The overall two-hour commute period is not expected to increase substantially in the future. Rather, the occurrence of peak-of-the-peak conditions, now less than one-hour, most likely would expand to fill the one-hour peak. As shown in the transit and traffic analyses of the EIR (pp. IV.E.26-30 and IV.E.32-34) sufficient capacity would be availabe in the two-hour period to absorb the majority of the demand. With mitigation (see section V.E. of the EIR) there would be sufficient supply to fully accommodate all demand without further extending the peak period. If transit supply failed to grow as projected it could cause the commute period to spread considerably if growth continued as projected.

For auto commuters, it can be inferred that some additional street congestion (as described on pp. IV.E.30-34) may increase the auto commute time. The peak hour driver would not experience any measurable increase in delay; however, persons currently using other portions of the evening commute period would recognize increased traffic congestion in the future. Street congestion is probably the biggest determinant of travel time for San Francisco-based commute trips. However, the nature of the transportation analysis is such that it is not possible to reliably estimate precisely how many additional minutes this could entail.

Commuter travel time, which is relevant only at the single-commuter level, is highly variable as it depends upon individual choice of route and time of travel. The transportation analysis has been conducted at an aggregated level (i.e. the C-3 District), from which projections of single-vehicle phenomena cannot be separated with any statistical validity. Projections of changes in the percentage of commuters within various travel-time categories (the base data for which is available for the recent past from the Census and the C-3 Employee Survey) can not reliably be converted into information about spreading of the peak period because changes in travel time categories can occur as much from changes in residence patterns as from increasing congestion on transportation facilities.

Similarly, vague generalizations about three-hour commutes each way from the East Bay cannot be supported by the data in the transportation analysis. The longest BART trip from an East Bay station to Downtown is in the range of about one hour. It seems unlikely that individual commuters would suffer through three hours of delay (should this ever occur) when an attractive alternative (one-third the time) would be available. AC Transit is and would remain a reliable alternative to driving, since AC buses currently by-pass (via separate transit lanes and viaducts) the majority of congestion at the toll plaza.

As discussed on pp. IV.E.15, IV.E.32-34 and as shown in Figure IV.E.3, p.IV.E.38 of the EIR, queues and traffic congestion are projected to increase, as are congestion effects on Muni surface operations. To the extent to that Mitigation Measures Nos.2, 3, 4, 5, 14, 19, 20, 27, and 28 are undertaken, transit travel time could greatly improve.

E.1.4.3 Reverse Commutes and Transit Use

Comments have been received that direct the EIR to consider whether increased growth (e.g. employment) in Richmond, Fremont, or Concord would make more efficient use of BART line capacities. There is more than one way to respond to this question. Although reverse capacity exists on BART there are several reasons why it is not well utilized:

- o regional auto access is far faster than reverse commuting on transit because of less auto congestion in the reverse commute direction;
- o transferring between local and regional carriers requires more time than in the commute direction;
- o some or most reverse commuters would find it necessary to travel for at least a portion of their trips in the peak direction in order to reach their destinations;
- o suburban transit, which is designed to bring residents to regional trunk lines, does not provide a good distribution to suburban employment centers.

Thus, good regional transit access may not, in and of itself, encourage commute use.

A recent article, discussing this sort of development, growth surrounding a suburban Washington D.C. Metro Station (i.e. New Carrollton), appeared in the June 1984 issue of Planning (pp. 11-14). To date, the New Carrollton development has been largely automobile-oriented rather than transit oriented. Employee surveys conducted in New Carrollton indicate that only one percent of the workers use the nearby Metro. This lack of transit use can be attributed to a number of factors found in outlying suburban areas:

- o ample supplies of free parking
- o lack of geographic constraints which force travel into discrete corridors i.e., nearly all older urban areas are located on estuaries, near mountain ranges or some other geographic barrier/8/
- o lack of previous transit ridership experience to those locations.

E.1.5 Non-C-3 Travel Growth

A large number of comments have been received questioning the completeness of the EIR analysis because of the limitations of the EIR study boundaries. It is important to note at this point that the Downtown Plan EIR does not purport to be an environmental document for all Bay Area regional employment growth. Rather the EIR was prepared to provide sufficient information to allow decision makers to rezone a portion of San Francisco (the C-3 District). The commenters are correct in their presumption that through, or non-C-3, travel must be factored into the impact analysis for existing and projected future conditions. The EIR impact analysis went to great lengths to isolate C-3 travel from non-C-3 travel in the regional transportation networks in order to project the impact of continued Downtown employment growth.

The travel analysis takes a regional perspective on the use of the transportation systems serving Downtown. Non-C-3 travel growth at the regional screenlines was projected on the basis of historic trends in growth at the regional screenlines. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region. Employment projections or estimates of development potential (based on plans or lists of projects) are not specifically used in the non-C-3 travel analysis. Because analysis of non-C-3 travel has been conducted for discrete locations (i.e. the regional screenlines) there is no direct relationship between non-C-3 land use, employment, or housing and the non-C-3 travel analysis.

Historic transportation growth rates have been used to project increases only for non-C-3 District travel at the regional screenlines (referred to on pp. J.20-25 of the EIR). No other use of historic growth rates has been made n the transportation analysis. Historic growth rates were not used to project future development or employment either in the C-3 District or outside he C-3 District. Because of the individual and unique nature of each of the transportation screenlines, each growth rate is based on data for that ocation. Thus, the growth rates for freeways project growth in auto trips, while the growth rates for transit project growth in ridership. As noted in he EIR, the screenlines were selected on the basis of their relationship to ravel leaving San Francisco and thus the majority of travel at the creenlines is related to San Francisco. With the C-3 District travel omprising between 50% and 90% of the peak-hour travel at the regional creenlines, changes in non-C-3 travel at the screenlines constitute elatively small portions of the total future peak-hour travel volumes.

ach of the historic growth rates inherently contains information about egional growth in travel patterns and thus incorporates not only growth from ther parts of San Francisco, but from elsewhere in the region. As an xample, the historic growth rate for trips southbound on US-101 includes travel that crosses the Bay Bridge or the Golden Gate Bridge as well as travel from San Francisco. However, the growth rates describe travel, they do not irectly relate to growth in space or employment.

y assuming that historic trends of growth in the amount of non-C-3 travel ould continue unchanged into the future, the transportation analysis has otentially overestimated the effect of non-C-3 travel growth in light of rowth forecasts made for the EIR and by ABAG. The analysis done for this tudy indicates that the overall rate of growth in total City employment is ikely to be slower in the future than it was in the past. This slowing of verall employment growth is also reflected in the ABAG forecast for San rancisco and the Bay Area region. (See the Consultant's Report, Table H.9, H.40, and accompanying text.)

With respect to economic growth in different areas of the City: the future rate of growth in C-3 District employment under the Downtown Plan would represent a slowing of the rate of growth in this area. In areas adjacent to the C-3 District, particularly to the south, the future rate of employment growth is expected to be higher than in the past, however./9/ The future rate of growth in the rest of the City probably will represent a rate of growth that is similar to, or somewhat lower than, that which occurred in the past in these areas. (See EIR, pp. IV.B.55-60 and IV.C.47-49, for discussion of the factors considered in the citywide perspective on real estate development and employment.)

As discussed in Appendix J, p.J.22 of the EIR, no non-C-3 growth in the peak-hour was assumed for the Bay Bridge or the Golden Gate Bridge. These assumptions were made on the basis of historic data for both facilities and reflects the level of congestion currently experienced during commute periods on those bridges. Historic data for both facilities show that peak-hour and peak-period volumes on both facilities have been fluctuating (within the expected daily variations) at about the same volumes for several years, which can be construed to mean that no peak-hour or peak-period growth in auto travel has been occurring on those facilities. This phenomenon may be explained by the assumption, as noted in Table IV.E.3, p. IV.E.35 of the EIR, that current peak-hour and peak-period volume levels represent functional capacities for the two facilities. The transportation analysis has applied the no growth trend to non-C-3 travel only; the C-3 travel, for the purposes of adjusting the modal split, has been allowed to increase, and thus represents an overestimate of actual travel on the basis of past trends.

Comments have been received indicating the Downtown Plan EIR may not be accurate and complete because Rincon Hill's office development potential was not considered in the analysis. Rincon Hill is not within the C-3 District, so by definition it was not part of the Downtown Plan. As the commenter is aware, the City has been engaged in a Rincon Hill planning, zoning, and environmental study for the last two years. The DEIR for the Rincon Hill Plan was published in June, 1984. The DEIRs for both Rincon Hill and Downtown were prepared using generally the same data sources. The Downtown Plan EIR considered the impacts of growth outside of the C-3 District in its overall travel projections. Rincon Hill's development potential is included in that portion of the analysis. The housing opportunities that Rincon Hill may provide were also considered for the journey-to-work travel assignments.

Section E.1.9 contains additional discussion on non-C-3 travel growth, and specifically addresses potential development in the Mission Bay area. Also, see Response B.2.1.

E.1.6 Comparison of List Based Guidelines and Employment Approaches

Commenters on the DEIR have requested that the transportation analysis be revised using both the 1981 and 1983 guidelines. In order to respond to this comment, it must be pointed out that the Department of City Planning prepared Transportation Guidelines in 1978, 1980 and 1983. Since there is not a 1981 version of the Guidelines to draw upon, the remainder of the response will be directed to the 1983 version.

For the list-based analysis, all of the requested data are available or can be derived from the Guidelines for Environmental Impact Review; Transportation Impacts (Department of City Planning, September 1983). For the analysis using the Downtown Plan EIR method, the data in the 1983 Transportation Guidelines (i.e., trips per 1,000 sq. ft. of new office or retail space) would be incomplete because the EIR analysis predicts travel for more than just office and retail space. Forecasts of total employment (not based on employee-per-square-foot ratios) for all land uses in the C-3 District are the basis of the transportation analysis. It is important to remember that all travel expressed in trips must ultimately relate back to people. And in the case of transportation demand, a better relationship can be made on the basis of employment rather than square footage of buildings. It is people that make trips, not buildings.

The results of the two analyses are not directly comparable. The Downtown Plan EIR analysis projects increases in travel from areas outside of the C-3 District and outside of the City. The list-based method (covered in the Transportation Guidelines) makes projections of travel on the basis of only two components of future land use growth, while the Downtown Plan EIR analysis uses a much-broader-based spectrum of land use. It is for this reason that both MTC and ABAG rejected the Transportation Guidelines approach for cumulative analysis in their joint preparation of Working Paper One. The Transportation Guidelines also recognize the limitations of a square footage or list-based approach for cumulative analysis. The Transportation Guidelines directed that employment forecasts be the basis for future projections as soon as these were available. The State CEQA Guidelines provide for the use of either method.

There are several differences between the two approaches. Table C&R E.2 summarizes these differences. The basic difference is that the Downtown Plan approach accounts for future changes to a range of land uses as well as changes over time in worker characteristics and behavior, while the list-based approach uses known projects of certain types to represent future activity and assumes unchanging residential distribution and travel behavior. As a result of this basic difference in approach, the Downtown Plan EIR forecasts incorporate changes over time in employment densities, residence patterns, and travel patterns, whereas the list-based approach applies current conditions to all future activity. Thus, the Downtown Plan EIR forecasts provide a superior means of assessing the future cumulative context for Downtown development.

The commenter is correct in noting that transportation demand is absolutely related to residential location, i.e, housing availability and cost. That single factor is most responsible for the decision to change the methodology from a list-based to an employment-based methodology. As described above and on pp. J.16-19 of the EIR, the use of a static residential distribution in the list-based analysis has projected too high San Francisco/Muni impacts and too low East Bay impacts.

E.1.6.1 Office Space Equivalents for Travel Demand

One commenter has noted the difficulty in attributing transit demand to new development because of the use of employment forecasts rather than square footage of new floor space. As noted above, employment (trips per employee)

TABLE C&R E.2: COMPARISON OF CUMULATIVE IMPACT ASSESSMENT METHODOLOGIES

	Downtown Plan Forecase Approach	List-Based approach
Focus of Impact Assessment	- Impacts of C-3 District land use and employment within context of rest of City and region	- Impacts of land use and employment in the greater downtown area including C-3 District and adjacent areas within context of rest of City and region
Timeframe	- 1984 base year	- 1984 base year
	- Changes in C-3 District land use and employment forecast to occur between 1984 and 2000	- Changes in greater downtown land use and employment determined by buildout of March 10, 1984 List of Cumulative Office Development in downtown San Francisco. (Although no date is attached to this buildout, it could occur between 1990 and 2000)
Land Use	- 1984 base year includes all land uses	- 1984 base year includes all land uses
	- Incorporates changes over time in office, retail, hotel, industrial, and all other C-3 District space	- Incorporates net additions of office and retail space in greater downtown area as shown on the List
	- Reflects changes in response to market demands for space within context of C-3 District space	- reflects changes as a result of development of projects on the List
	- Incorporates new construction, demolitions, and conversions for all land uses	- Incorporates new construction and demolition of office and retail space and conversions to office and retail uses as included on the List
	- Incorporates more intensive use of space (both existing and new) over time (e.g. employment density for management/technical office is 276 gross sq.ft. of occupied space per employee in 1984 and 267 gross sq.ft. per employee in 2000)	- Intensity of use of spaces does not change over time (e.g. employment density for management/technical office is always 276 gross sq.ft. of occupied space per employee)
Employment	- 1984 base includes all C-3 District employment	- 1984 base includes all employment in the greater downtown area
	- Changes over time incorporate increases and decreases in all types of permanent employment directly associated with a land use, in building maintenance/security employment, and in construction employment	- Changes over time incorporate the growth of office and retail employment as a result of development of the projects on the List
Residence Patterns and Housing	- Residence patterns change over time reflecting changing regional labor force, housing market, employment and transportation factors (e.g., the percentage of C-3 District management/technical office workers living in San Francisco is currently 49% and would decline to 44% in 2000)	- No change in residence patterns from current conditions (eg. the current 49% of C-3 District management/technical office workers living in San Francisco is assumed to continue to apply)
Transportation	- Trip generation has been adjusted to account for travel between buildings such as between office and retail uses) which does not leave the downtown	- No adjustment made to trip generation; all trips for buildings on the List counted as new travel in or out of downtown
	- Modal split changes over time reflecting capacity improvements, changing residence patterns, and behavior adaptations	- No changes from current modal splits are assumed
	- Includes growth of local and regional non-C-3 District travel	- Local and regional non-C-3 District travel assumed to remain constant at 1984 levels, except for addition of travel due to development of the projects on the List
Key Reference	- Downtown Plan Draft EIR, EE 81.3, March 16, 1984	- Guidelines for Environmental Impact Review; Transportation Impacts, September 1983

Source: Recht Hausrath and Associates

functions as a better predictor of travel than does floor space (trips per unit of building square footage). In both cases, the amount of travel generated (person trip-ends) is a common denominator.

In order to crudely estimate the new transit demands (trips) created by Downtown employment growth of individual land uses (e.g. hotels, retail establishments, office buildings), the commenter can, by extrapolation, multiply the estimated change in employment of individual business activities (see p. IV.C.33), by the daily trip rate per employee (Table J.1, p. J.7), by the peak-period trip percentage (Table J.2, p. J.8), by the transit share percentages found in the 1983 Transportation Guidelines. However, this estimate would not correspond to the transit ridership increases projected in the EIR because the crude estimate does not include effects from:

- changes in residence patterns of employees
- out-migration of employment and subsequent loss of existing transit riders
- shift of auto users to transit
- changes (increases and decreases) in transit service availability
- changes in patterns of transit use by existing employees

The EIR analysis has incorporated the effects of the above points through its use of the entire existing and future C-3 District employment population, not just the change in employment. Use of the incremental change (as suggested in the comment) does not allow for analysis of the effects of changes in the exsiting employee population's travel patterns (this latter item is especially important as the existing employees outnumber the new employees by 2:1).

E.1.7 Consequences of Continuing Growth on Transportation

A number of comments touched upon fundamental urban geography questions. Namely, what happens when transportation corridors reach their capacities and growth continues? And secondarily, how does transportation access shape business locational decisions? Finally, a commenter has expressed the belief that all of the basic transportation infrastructure is fully utilized and that this therefore places functional limits to the amount of growth that San Francisco can accommodate.

For an answer to the first question we can look at San Francisco itself. Since the mid-1960's San Francisco's Downtown has been undergoing a development "boom". We can observe what has occurred as a consequence of that growth to the transportation network serving San Francisco. Since 1965, the number of cars coming into and leaving Downtown has remained relatively unchanged (see Figure C&R E.2) while 30 million square feet of office space and approximately 100,000 new jobs were added. The roadway and freeway capacities have been fixed at present levels but transit capacities have grown considerably (BART, Muni Metro, Golden Gate Transit, and SamTrans service were instituted in the period between 1965 and 1983).

Increased San Francisco commuter travel demand has been accommodated on transit, as called for in the Transportation Element of the Master Plan. Whole transit agencies have been developed in order to serve and shape Downtown travel demand (i.e., Golden Gate Transit, Samtrans, and BART) since the 1960s. The fact that so much activity is concentrated in a small geographic area of San Francisco, provides the critical mass necessary for regional transit service. Without the clustering of activities that is present in Downtown, residential and/or employment densities would be too low to provide the necessary critical mass, thus precluding transit ridership sufficient to support the farebox without monumental operational subsidies (far larger than those provided to systems serving Downtown).

The supply of transportation facilities (capacities) and the demand characteristics are not inelastic. Excess transportation supply creates new transportation demand. Even a casual observer can see that additional freeway construction has not eliminated traffic congestion in Los Angeles. Each of the transportation operating agencies providing regional access to San Francisco have improvement plans which if fully implemented could double the amount of service presently available to Downtown.

One of the few national studies on the interaction between office growth and transit, Downtown Office Growth and the Role of Public Transit (Urban Land Institute, 1982, available at specialty libraries at U.C. Berkeley and MTC), makes some general conclusions about business or industry locational theory as well as providing case studies for Denver, Houston and Seattle. Three tables, which summarize the types and locational criteria of businesses found in downtowns compared to the suburbs, have been extracted from the report and reproduced on the following pages in Tables C&R E.3-5.

The ULI report generally found that firms locate to be closer to their clients. Downtown firms typically have a stronger corporate client orientation than do suburban firms. The firms were motivated by four main factors: proximity to clients; proximity to business contacts; proximity to financial institutions; and proximity to courthouses. The suburban firms were also motivated to locate proximate to clients; however proximity to their employee residences as well as the avoidance of traffic and parking problems were important factors in locating in the suburbs. The report authors believe that a substantial portion of offices are pushed to suburban locations by the traffic and parking problems associated with downtowns.

Thus no direct conclusion can be drawn for the commenter's question. It can be inferred that continued clustering encourages a sorting out of businesses that need to be located in downtowns versus those that could be located in the suburbs. The employment forecasts in the EIR also assume this same self-selection process. These locational considerations appear to be stronger than the disadvantages cited by surveyed firms.

In short, it appears that businesses will locate in downtowns as long as it makes sense for them to do so. The transportation impacts described in the EIR provide an analysis of projected transportation impacts based on the employment forecasts which take into account locational preferences of employers.

New York City and Houston would make interesting case studies as suggested by one commenter. However, the nature and size of these urban areas is such that they are not directly or indirectly comparable to San Francisco.

TABLE C&R E.3: TYPES OF CLIENTS OF DOWNTOWN AND SUBURBAN OFFICE FIRMS (Percent)

Type of Activity/Type of Client	Downtown Firms	Suburban Firms
Total Sample		
Individuals	18	44
Small Businesses	30	29
Large Corporate and Financial Institutions	52	27
	100	100
Business Services		
Individuals	11	16
Small Businesses	30	29
Large Corporate and Financial Institutions	59	55
	100	100
Banking Services		
Individual	30	52
Small Businesses	19	38
Large Corporate and Financial Institutions	51	10
	100	100
Legal Services		
Individual	19	61
Small Businesses	35	23
Large Corporate and Financial Institutions	46	16
	100	100

SOURCE: Urban Land Institute Survey, Downtown Office Growth and the Role of Public Transit (1982) p.19-36

TABLE C&R E.4: MAJOR FACTORS INFLUENCING THE CHOICE OF LOCATION BY DOWNTOWN AND SUBURBAN OFFICE ESTABLISHMENTS (Percent of firms mentioning factor)

Locational Factor	Downtown Firms	Suburban Firms
	(N=135)	(N=135)
Proximity to Clients	82	45
Proximity to Business Contacts	73	-
Proximity to Support Services	4	8
Proximity to Employee Residence	6	36
Prestige	2	-
Availability of Transit Service	7	-
Avoidance of Traffic and Parking Problems	-	25
Cost of Space	-	10
Tradition	6	-
Proximity to Airport	-	1
Business Growth Prospects	1	4
Regional Access	4	11
Environmental Amenities	1	2
Proximity to Financial Institutions	22	-
Availability of Space	-	4
Proximity to Courthouse	19	1

SOURCE: Urban Land Institute Survey, Downtown Office Growth and the Role of Public Transit (1982) p.19-36

TABLE C&R E.5: LOCATIONAL DISADVANTAGES CITED BY DOWNTOWN AND SUBURBAN OFFICE FIRMS (Percent)

Disadvantages Cited	Downtown	Suburban
	(N=135)(a)	(N=135)(b)
Parking Problems	29	5
Traffic Problems	24	6
Inadequate Transit	10	10
Air Pollution	2	-
Lack of Support Services	-	4
Poor Access to Commercial Clients	-	4
Percentage of Firms No Disadvantage	44	76

(a) Column totals do not add to 100 percent because some firms listed more than one disadvantage.

SOURCE: Urban Land Institute Survey, Downtown Office Growth and the Role of Public Transit (1982) p.19-36

E.1.8 Travel Demand of Alternatives

Comments have been received indicating that it is difficult to discern the impact that the Downtown Plan or its Alternatives would have on peak travel at regional or Downtown screenlines.

Table VII.E.1(p. VII.E.2 of the EIR) was provided in order to compare the impacts of the Alternatives to each other. In order to respond the commenters question it is necessary to isolate the effect of projected new C-3 District travel from that which is expected to occur from the non-C-3 travel.

If, for the sake of discussion, it were assumed that no additional Downtown growth were to occur between now and the year 2000, non-C-3 travel demand would still grow. Table C&R E.6 shows p.m. peak-hour traffic volumes at the regional screenlines for the year 2000 under the Downtown Plan and the five Alternatives in comparison with the non-C-3 growth scenario.

E.1.8.1 Different Modal Splits for Alternatives

Commenters have requested that additional information be provided regarding the different modal assignments (mode split) made for each of the alternative growth scenarios. As can be seen on pp. IV.E.2 of the EIR, there is very little difference between the range of total travel. As discussed in the Consultant's Report on Growth Management Alternatives for Downtown San Francisco, the analysis of the five Alternatives (and the Downtown Plan) for the year 2000 has used a single modal split for the year 2000.

The appropriateness of the use of the same modal split for each of the Alternatives is consistent with empirical research derived from a Regional Plan Association study which is reported in Public Transportation and Land Use Policy./3/ The differences in expected total nonresidential floor area under any of the Alternatives (shown on p. VII.B.4 of the EIR) are so close that it would not affect aggregate modal assignment.

The 1984, 1990, and 2000 modal splits for C-3 District employees are shown in Table J.5, Appendix J of the EIR.

E.1.9 Non-C-3 Travel Growth and Mission Bay

Non-C-3 travel growth is discussed in section E.1.5. This subsection provides further discussion of that topic and addresses Mission Bay as an example of how non-C-3 growth is accounted for.

The transportation analysis methodology included establishment of a baseline of travel, preparation of projections of future travel from the primary study area--the C-3 District--and preparation of projections of future travel from outside the primary study area--the Non-C-3 areas.

The baseline data for the analysis came from actual counts, made in 1981-82, on the various travel modes (freeways, buses, BART etc.). For automobiles, the counts were made at screenlines just outside the C-3 District (shown on Figure IV.E.2) in order to pick up all C-3 District auto trips. The counts were generally obtained from the agencies maintaining the roadways: CalTrans for US-101 and I-280; the Golden Gate Bridge and Transit District for the

TABLE C&R E.6: COMPARISON OF P.M. PEAK-HOUR OUTBOUND REGIONAL TRAFFIC DEMAND/VOLUME, 1984 and 2000

			2000						
			No C-3	Downtown	Alternative				
Facility	Capacity	1984	Growth(b)	Plan	1	2	3	4	5
Bay Bridge (I-80)	(a)	8,540	8,540(c)	9,790	10,090	10,080	10,050	9,600	9,650
Golden Gate Bridge (US-101)	(a)	6,740	6,740(c)	7,150	7,370	7,330	7,280	7,130	7,110
US-101 (South of Harney Way)	8,000	7,390	7,930	8,400	8,580	8,550	8,520	8,330	8,330
I-280 (Between Alemany Blvd. & San Jose Ave.)	8,000	7,610	8,180	8,650	8,830	8,800	8,770	8,580	8,580

(a) The current peak-hour volumes on these two facilities represent functional capacity as described in Note (d) of Table IV.E.3, p. IV.E.35 of the EIR.

(b) An artificial condition calculated by adding 1984 C-3 District travel demand to the non-C-3 travel demand for the year 2000

(c) As discussed in section E.1.5, no peak-hour growth in non-C-3 travel was assumed for these two facilities on the basis of historic trends and as noted above.

SOURCE: TJKM Transportation Consultants and Environmental Science Associates, Inc.

Golden Gate Bridge; and MTC for the Bay Bridge. The numbers obtained were of vehicles, not riders. For transit ridership, counts were made at different screenlines, depending on the carrier (see Figure IV.E.1). Regional bus line counts at their point of exit from the C-3 District were used: AC Transit, upon leaving the Transbay Transit Terminal; SamTrans, at the San Mateo County line; Golden Gate Transit at the Golden Gate Bridge toll plaza. BART counts were used from screenlines at the edge of the C-3: at the entrance to the Transbay Tube for eastbound travelers and between the Civic Center and the Sixteenth Street stations for westbound travelers. Four screenlines, at the maximum load points, were used to measure Muni baseline ridership. The choice of screenlines was made in order to count at the point where the most C-3 District travelers would be found.

A survey of C-3 District workers, also done in 1981-82, provided specific data for travel times, travel directions and the means used (the travel mode: auto, bus, BART, walk, etc.) for the afternoon peak period of 4:00 to 6:00. Transportation planners and engineers developed an analytical process that used this survey data to establish C-3 travel. The analytical process ("model") was computerized into a spreadsheet system that was used for analyzing future transportation demand. The model was calibrated by comparing its results with the actual ridership data on transit and freeway systems. Thus, C-3 District travelers were established as a part of the total baseline.

Travelers remaining after C-3 District travelers were accounted for on the various transportation systems were those people from outside the C-3 District who travel on the same systems at the same time as the C-3 District peak-period travelers. These comprise the non-C-3 component of the baseline travel. The non-C-3 is not limited to travelers from the "greater downtown" (South of Market, Northeastern Waterfront) but includes all persons or vehicles travelling from anywhere to anywhere else which pass through the C-3 District screenlines during the study periods. For example, a worker employed in the Mission District of San Francisco who lives in the East Bay and leaves work regularly at 4:30 to take BART home would ride through the Downtown and the counted at the Transbay Tube screenline during the p.m. peak. For example, someone who regularly makes a delivery from an East Bay warehouse to a site in Brisbane in the late afternoon or early evening would be counted as a vehicle trip at the US-101 southbound screenline at the San Francisco-San Mateo County line during the peak period. Neither of these trips is related to C-3 District travel but combines with it during the p.m. peak and therefore must, of necessity, be measured.

Employment growth for the C-3 District for the periods 1981-84 and 1984-2000 was forecast by economists based on analysis of national, regional and local real estate and employment trends. This employment growth was the basis for the future transportation growth projections from C-3 District users, made using the computer model. Growth of non-C-3 travel, however, was NOT based on employment forecasts or estimates of square footage of projected building space. This is because such forecasts or estimates were not available and could not reasonably be made of employment or space for the entire non-C-3 area (that would have required detailed analysis of the entire Bay Region at a level that even the regional planning agencies have never prepared). In addition, even if such employment or space growth forecasts were possible and reasonable, using them to predict the amount of travel generated and the travel mode likely to be used by non-C-3 is not feasible with any degree of validity (see Section E.1.1.1 above). Finally, not all of the travellers moving around during the peak period are, or would be, the group of persons travelling from work to home. Based on the employee survey and other surveys done in the C-3 District, it is possible to add a non-work component to the C-3 travel, and to discount the travel estimates by the portion of people who either live and work in the C-3 or leave their work during the peak period but do not immediately use a transportation mode to leave the District (i.e., they go shopping, meet a friend for dinner, attend a movie, etc.). This discounting information is unavailable on a regional basis and would add to the insurmountable difficulties of measuring non-C-3 travel growth using employment or building space forecasts.

It was, however, essential to establish some means of projecting growth in non-C-3 travel for the analysis period, both because it is known that travel from parts of the greater downtown outside the C-3 District will increase in the next 16 years, and because it is reasonable to assume that other travel from the Bay Area crossing the screenlines during the peak period will also grow. One reasonable way to predict this growth is to use an annual growth factor that is based directly on historic growth using growth rates from 1975-1980 data. This method is somewhat limited in that it assumes a static growth rate (growth compounded annually, not simply added each year) rather than a slightly declining growth rate that would more closely match population (and therefore to a certain extent employment) predictions for the City and the region. Therefore, the historic growth rate was modified slightly at the 1990 point (for example, 1% per year was used for vehicle trip increases on US-101 and I-280 southbound during 1981-82 to 1990; 0.5% per year was used during 1990-2000).

Thus, non-C-3 growth on transportation systems is accounted for by use of a historic growth factor which is added to the "baseline-plus-growth-from C-3" transportation forecasts. While it is expected that many travellers are likely to shift from drive alone to carpool or transit modes for their commute travel, only the forecast new C-3 travellers were specifically reassigned to new travel modes, based in part on crowded Bridges and freeways and in part on trends in the region showing dramatically increased transit use over the past 10-15 years. This mode shift could not be carried out for non-C-3 travel because available information is so much less precise. Thus, the growth factor used for non-C-3 travel assumes worst case for some modes; the analysis method is worst case or more for all modes if non-C-3 travel does not grow at the same historic rate as it has in the recent past.

The non-C-3 component of the travel analysis must and does account for travel impacts due to development likely in neighborhoods near downtown, including South of Market, Rincon Hill or Mission Bay, in a general way appropriate to a cumulative analysis of an area plan for another location. Regarding the Mission Bay project, it is generally known that a planning effort is underway (and has been for several years) by a private developer--Santa Fe/Southern Pacific--to develop a mixed use community on approximately 210 acres in the area generally between Townsend Street, Sixteenth Street, Seventh Street, and Third Street. As an aside, it is important to note that a project has not been defined for the area. No applications are on file with the City, and several development schemes have been advanced during the past 2 years. At least one comment on the Downtown Plan Draft EIR noted that the Mission Bay project is by no means assured. If applications are filed at some point in the future, Master Plan amendments, Planning Code amendments, zoning district revisions, possibly development agreement legislation, and environmental analysis are just some of the regulatory steps that would be required before the proposal could begin to be built. Given the fact that the downtown stadium, which one commentor felt was an assured project based on Mayoral and newspaper support, was withdrawn from consideration after over a year of planning studies by City departments and private consultants, it is appropriate to classify Mission Bay, with less direct City involvement, as speculative at best. It is impossible at this point to determine whether or not a "Mission Bay" project would be built.

In spite of these points, it is also accurate to say that Mission Bay, while not specifically calculated for inclusion in the overall cumulative transportation analysis, can be accounted for in a general way in the non-C-3 portion of the analysis. Note that demand for office and commercial space is not unlimited; Mission Bay would probably preempt some development that would otherwise occur elsewhere in the non-C-3, possibly in the South of Market. In order to show this, it is necessary to make some general assumptions about the kinds of uses that are likely in the Mission Bay development and the travel patterns of the people who might live and work there. Because it is impossible to estimate at this point what proportion of the people who might live in the 7,577 dwelling units (the most current proposal) might also work in the commercial space, a worst case assumption would be that all persons employed at Mission Bay would commute to residences outside the area. Because there is no time frame yet attached to the activity, one must be assumed; a worst case assumption would be that the entire project was completed by 2000. It would also be necessary to assume that all jobs in Mission Bay commercial space were jobs new to the City, and that none substitute for jobs that would otherwise have been located in a C-3 District building. It is not known what employment densities are likely to be or how many person-trips would be generated by the commercial and "R&D" space currently proposed for the area. If again as a worst case, it is assumed that trip generation and mode split (how people travel) are similar to downtown and using total square footages for commercial space obtained from a recent newspaper account of the current proposal (Allan Temko, "What really makes Mission Bay Historic" San Francisco Chronicle, August 3, 1984, p. 8), assuming there was no space left vacant, calculations show that, for example, there would be about 650 vehicles from the Mission Bay project using the US-101/I-280 corridor during the peak period in the year 2000. Since the net new non-C-3 component at that screenline has been assumed to grow by over 2,300 vehicle trips between 1984 and 2000, even a worst-case scenario for Mission Bay is accommodated in the non-C-3 portion of the cumulative transportation analysis in the Downtown EIR.

E.2 TRANSIT

One commenter has asked what public transit services serve downtown San Francisco. Figure IV.E.1, p. IV.E.6 of the DEIR, schematically shows the transit systems serving downtown San Francisco.

A comment was received questioning whether non-peak direction transit service was counted in determining transit capacity. With the exception of the North-South Muni lines and BART, all transit service enters the C-3 District in a radial (or hub and spoke fashion). East-West Muni lines, Golden Gate Transit, SamTrans, AC Transit and CalTrain service have a clear peak direction during morning and evening commute periods. However, ridership on North-South Muni lines and BART have a bi-directional peak during commute times. As discussed on page IV.E.8 paragraph 2, riders to the Northeast and Southeast corridors use the same bus lines but in opposite directions, as do BART riders Transbay and Westbay.

Only ridership and capacity in the outbound direction from the C-3 District has been counted in the transit analysis. In the case of the uni-directional peak service, the outbound direction (away from the C-3 District corresponds to the peak commute direction for this transit service. For bi-directional peaking lines, the outbound service in each direction has been analyzed independently (i.e., northbound Muni lines were analyzed for service to the Northeast and Northwest corridors while southbound Muni lines were analyzed for service to the Southeast and Southwest corridors). The following sentence is added to p. IV.E.8 of the EIR, following the first sentence of the second paragraph:

> "Only travel in the outbound direction (away) from the C-3 District to each corridor has been considered in the analysis. Peak direction travel to the Northeast and Southeast Corridors has not been combined in the analysis."

In response to another comment, page I.E.6, paragraph 2, should be changed as follows:

> Measures are also proposed that would expand the regional rail network by extending the BART system to North Concord, Warm Springs in Fremont; and to the San Francisco Airport on the Peninsula; and by extending the Caltrain service into Downtown San Francisco. While it is premature to predict actual system capacity increases attributable to BART or Caltrain extensions, it is recognized that these extensions will increase the systems' capabilities to provide service.

E.2.1 Future Transit Capacities

One commenter indicated that the EIR discussion of future transit capacities seems contradictory, that on one hand (see p. IV.E.24) transit capacity increases are assumed yet in other portions of the EIR (pp. J.25-26) the capacity increases are qualified. The commenter has construed the qualifications to mean that the estimated transit capacities will not be attained. The qualifications are presented to illustrate the point that transit capacity can not be simply equated with fleet size and further, that transit capital and operational financing is complicated by shifting sources of revenue. The authors of this report do not consider the cited qualifications to mean that transit increases will not be attained.

The future transit capacities were developed by applying percentage increases expected in the future to observed existing capacity. Thus, to the extent that the existing conditions contain inherent capacity reduction for missed runs, the future capacity projections have taken into account the inability of the transit systems to provide 100% of scheduled capacity. The Muni analysis calculates capacity on the basis of all runs leaving the C-3 District in the p.m. peak, even though some of the routes pass through the C-3 District.

Commenters have indicated that there is some confusion whether future BART/Muni/CalTrain rail extensions were assumed in the transportation impacts analysis. BART/Muni/CalTrain rail extensions were not considered in the impacts analysis. Rather, they were treated as mitigation measures. The BART rail modernization project to construct the Colma turn-back track was included in the transit analysis. The rail extensions are discussed on pp. V.E.4-10 of the EIR. The EIR analyzes the CalTrain extension, the BART extension to the San Francisco Airport, and the Muni Metro extension to the vicinity of Fourth and Townsend Sts. as three projects essentially competing for the same funding, although the Metro extension would serve a somewhat different ridership market than the other two proposed extensions.

E.2.1.1 The Appropriateness of the Use of Five-Year Plans

As discussed in the EIR on pp. J.25-26 and J.37-38, the future transit capacities were developed from the Five-Year planning programs for each of the transit agencies. Additionally, each agency was consulted regarding the validity of assumptions about capacity taken from the Five-Year Plans. The Regional Transportation Improvement Program (RTIP) and the New Rail Starts program from MTC were also used in the EIR analysis. The Five-Year Plans are federally-mandated annually-updated operational planning documents that are not merely "wish lists" but are reasonable and useful analyses of funding sources, capital improvements, vehicle acquisitions, and route and schedule modifications. Plans developed at the inception of the Five-year Plan process were more global and policy oriented than are the more recent versions of the Plans which are more operational in nature. Comparison of the Plans for the 1981-1986 cycle with those for the present cycle shows that the short-term goals expressed in the Five-Year Plans have been reasonably attained by the transit carriers. The recent funding of several capital intensive transit projects (the BART turn-back for one) serves to reinforce this validity of the Five-Year Plan process. Thus, it was appropriate that the EIR analysis used the Five-Year Plans as a basis for projections of future transit capacity.

Regarding the legality of an assumption, CEQA is silent upon the point of what represents an appropriate (legal) assumption, rather, CEQA defers to the judgement of experts.

E.2.1.2 Financial Feasibility of the Transit Capacity Assumptions

Commenters have questioned the financial plausibility of the future transit capacity assumptions that were made in the impact analysis as well as those transit measures presented in the mitigation discussion. The comments essentially conclude that the financial considerations were not critically evaluated by the EIR. The commenters are correct in their appraisals that the transit finance assumptions are pivotal regarding any level of future forecasting. Transportation financing is made more difficult by the fact that the revenues come from so many different sources. The following discussion of transit financing is presented to clarify the assumptions used in the transit analysis.

Briefly, the main revenue sources available to regional carriers are the following:

- Local, including property, sales and parking taxes, bond sales and farebox and advertising revenues.
- Regional, including toll bridge revenues and regionally collected sales tax.
- State categorical and discretionary assistance.
- Federal formula and discretionary funds.

All funding, except locally generated revenues, are disbursed through the region's Metropolitan Planning Organization. The Metropolitan Transportation Commission (MTC) serves this function in the nine-county San Francisco Bay Area. MTC has been serving in this capacity for nearly the last fifteen years. MTC's approach to this responsibility has been to take a conservative posture toward future financial constraints. The following data use the lower limits of MTC's inherently conservative financial forecasts.

The 1983 Regional Transportation Plan projected the following 1983-84 Transit Operations Financial Summary. Table C&R E.7 provides financial information for each of the region's transit operators. Transit operating assistance revenues were derived as follows:

Funding Source	1983 Funds
farebox revenue	$203,434,000
sales tax	151,567,000
property tax	85,170,000
Subtotal Local and Regional	$440,171,000
Transportation Development Act (TDA)	$ 70,759,000
State Transportation Act (STA)	18,177,000
Subtotal State	$ 88,936,000
Other funds*	$ 32,231,000*
UMTA Sections 5,9,8 (Federal)	$ 35,757,000
Total Local, Regional, State, Federal, and Other	$597,095,000

* includes: GGBHTD toll bridge revenues ($12 million); Santa Clara County subsidy to CalTrain ($4.1 million); San Mateo County subsidy to CalTrain (4.1 million); San Francisco subsidy to CalTrain ($0.4 million); State of California subsidy to CalTrain ($9.5 million); as well approximately $2 million from other miscellaneous sources.

Each of the six individual transit properties serving San Francisco have unique composite sources of revenue for transit operations. Table C&R E.7 is a financial summary that shows the specifics of operating assistance as well as the totals of the operating revenues that support the six regional transit properties serving San Francisco.

TABLE C&R E.7: 1983/84 TRANSIT OPERATIONS FINANCIAL ESTIMATES BY OPERATOR ($000s)

OPERATING REQUIREMENTS	BART	Muni	AC Transit	GGBHTD	SamTrans	CalTrans/SP
Total Operating Expenses	142,429	172,900	98,257	36,652	29,959	29,142
Less: Operating Revenues	71,370	53,800	32,248	17,716	7,300	8,500
Required Operating Assistance Existing & Committed Service	71,059	119,100	66,009	18,936	22,659	20,642
PROGRAMMED OPERATING ASSISTANCE						
- TDA	1,937	16,500	16,015	4,642	6,595	-----
- STA	3,500	6,400	5,760	----	400	-----
- Sales Tax	66,700	11,300	16,400	----	12,489	-----
- UMTA 5/9/8	------	14,000	7,863	2,275	2,565	2,000
- Property Tax/Gen. Fund	5,500	63,200	16,470	----	-----	-----
- Other	----	700	-----	12,019	610	18,642
Total Available Operating Assistance	77,637	112,100	62,508	8,936	22,659	20,642
(Operating Deficit)/Funds Available for Capital	6,578	(7,000)	(3,501)	0	0	

Source: 1983 Regional Transportation Plan, MTC, pp.67-68

On the capital improvements side, MTC projects that $1.1 billion (in 1983 dollars) is necessary to maintain the Existing and Committed (E&C) regional transit system over the next five years (1983-88) and that from 1981-95 maintenance of the E&C could require up to $2 billion. The E&C system refers to the maintenance and service of the existing regional fleet. The E&C maintenance does not include capital or fleet expansion programs; however, when expansions do occur, they become part of the E&C system.

An independent financial analysis prepared for the S.F. Chamber of Commerce estimated that all together, $2.9 billion would be necessary in order to support and maintain the E&C transit system for the next sixteen years./10/ In order to expand beyond the existing regional transit system, total capital revenues would need to exceed that figure. The MTC "New Rail Starts" Program examined the financial feasibility of "surplus" capital resources being available for significant system capacity expansion. Based on projected regional capital revenues, a range of $4.6-7.1 billion would be available for both the E&C and "New Rail Starts" programs by the end of the century. After subtracting the E&C financial requirements, there would be sufficient ($1.7 - 4.2 billion) remaining revenue to fund most, if not all, of the regions "New Rail Starts" program (estimated to be $2.8 billion). The following major transit projects called for in the Downtown Plan are included in MTC's regional 'New Starts' program:

$110 million	Caltrain Modernization
$280 million	BART, Daly City Turnback, storage yard, and rail cars
$ 41 million	MUNI Metro, Embarcadero Station turnaround
$ 16.5 million	MUNI Metro, J-line extension
$ 12.5 million	MUNI Metro, extension to 4th and Townsend Streets
$400 million	Caltrain, extension to downtown San Francisco
$370 million	BART, extension from Daly City to SFO
$ 33 million	MUNI Metro, E Line Streetcar
$ 13 million	MUNI Metro, F Line Streetcar
1,276 million	

Slightly more than 40% of the MTC regional 'New Strats' program would improve transit access to downtown San Francisco.

On this basis, the EIR transportation analysis appears prudent (if not cautious) in assuming the level of transit that it did, which was none of the projects beyond what is anticipated in the E&C system.

E.2.1.3 Future Transit Level of Service Without San Francisco Growth

Comments have been received that question what the future Level of Service on transit would be if no new San Francisco growth occurred.

Table C&R E.8 shows transit loadings for the year 2000 both with and without cumulative development; year 2000 capacities have been assumed in both cases. Transit agencies would not add service if it is utilized to the extent shown on Table C&R E.8 under the heading "2000 without Cumulative Development". Public transit agencies would probably go out of business because they would be unable to meet statutory farebox requirements. Transit agencies (especially bus operators) can not afford to provide transit at Levels of Service A and B for a sustained period. Thus, the transit agencies, especially Muni, would most likely curtail their vehicle acquisition programs to reduce their proposed service improvements to a level that would provide peak-period service at or near their service goals. Ferry and rail operators would also likely adjust their transit headways or size of trains in order to conserve longevity of the fleet and reduce "excess supply".

E.2.2 Muni

Numerous comments have been received regarding the accuracy, objectivity, and adequacy of Muni ridership figures. Several commenters have provided their own observations of transit loadings. Other commenters have indicated that they are unaware of Muni's ongoing program of ridership checks. Muni line ridership is sampled an average of two to eight times a year. While there are those who would quibble with the tally results of the ridership checks, the ride checks provide the only ongoing data collection program. The results of the Muni ride checks are used to assign fleet to individual transit lines.

TABLE C&R E.8: OUTBOUND REGIONAL TRANSIT LOADINGS AND LEVEL OF SERVICE

Transit Agency	1984		2000 w/o Cumulative Development (a),(d)		2000 with Cumulative Development (a)	
	P/S(b)	LOS(c)	P/S	LOS	P/S	LOS
P.M. Peak Hour						
Muni						
Northeast	1.16	D	0.85	C	1.05	D
Northwest	1.26	E	1.01	D	1.25	D
Southwest	1.45	E	1.15	D	1.42	E
Southeast	1.06	D	0.73	B	1.01	D
BART						
Transbay	1.53	F	0.82	C	1.42	E
Westbay	1.10	D	0.81	C	1.06	D
AC Transit	0.94	C	0.94	C	1.06	D
GGT Bus	1.00	C	0.57	B	0.91	C
GGT Ferry	0.57	B	0.20	A	0.38	A
Tiburon Ferry	0.40	A	0.40	A	0.60	B
SamTrans	1.12	D	0.73	B	1.19	D
CalTrain (SPRR)	0.61	B	0.50	A	0.79	C
P.M. Peak Period						
Muni						
Northeast	1.06	D	0.77	C	0.95	C
Northwest	1.13	D	0.90	C	1.05	D
Southwest	1.31	E	1.04	D	1.29	E
Southeast	1.00	C	0.66	B	0.88	C
BART						
Transbay	1.54	F	0.82	C	1.40	E
Westbay	0.80	C	0.60	B	0.77	C
AC Transit	0.95	C	0.95	C	1.16	D
GGT Bus	0.90	C	0.51	A	0.81	C
GGT Ferry	0.56	B	0.19	A	0.33	A
Tiburon Ferry	0.60	B	0.60	B	1.00	C
SamTrans	1.12	D	0.74	B	1.15	D
CalTrain (SPRR)	0.68	B	0.56	B	0.77	C

(a) Capacity includes assumed improvements from Downtown Plan EIR analysis.
(b) Passengers per Seat is the ratio of total demand to seated capacity.
(c) Level of Service is scale ranging from A to F that relates P/S ratios to passenger loading conditions on transit vehicles.
(d) An unreal situation. Capacity increases would not occur if development stops.

SOURCE: Environmental Science Associates, Inc.

Other independent traffic checks have been performed under consultant contracts to the City; however, the results of these studies are incomplete and thus unavailable for use in this analysis.

Baseline transit capacities were not derived from transit schedules. The 1981/82 transit ridership and loading data used in the Downtown Plan EIR analysis are summations of actual counts of individual transit lines for that period in time. Calculations are made on the basis of observed operating conditions, as opposed to scheduled operations. Muni supplied the data (see Table C&R E.9 and Table C&R E.10) for the EIR analysis from its ongoing program of ridership checks. (The data supplied and collected for each transit agency are in the supporting documentation for the Downtown Plan EIR on file with and available for public review (by advance appointment) at the Office of Environmental Review, 450 McAllister St., 5th Floor) Muni was involved in the process of verifying the transportation analysis for the EIR and as a result of that process, approved of the use of Muni data and the projections derived from that data. Photographic examples of ridership conditions are shown on pp. J.31-33 of the EIR.

Commenters have requested that individual Muni line data be presented. The EIR uses the corridor-based analysis because it is not possible to predict accurately which individual transit lines future riders would use, only which corridor they would use. Additionally, it can be assumed that if a rider desired to take one line that was operating at or above capacity, he/she might switch to another line, within the same corridor, that was operating below capacity. Therefore, the corridor-based analysis gives a more accurate prediction of overall Muni operations than would a line-by-line analysis. As described on pp. IV.E.9 of the EIR, aggregation of line-by-line data may slightly distort overall ridership conditions.

As noted above, Tables C&R E.9-10 show the individual baseline Muni line information used in the preparation of the EIR prior to aggregation by corridor.

One commenter requested that Muni line-by-line ridership be recalculated using a weighted average and that the weighted average be aggregated into a system-wide overall average in order to better express existing conditions.

It is not necessary to weight ridership to determine the variation between Muni lines. It can be seen in Table C&R E.10 that during the peak period, approximately one-quarter of the Muni lines serving Downtown are near (90% or more) or exceed the current recommended volume/capacity ratios. It can also be observed that these lines carry approximately half the peak period riders. During the peak hour (as can be seen on Table C&R E.9) these conditions are even more pronounced, with closer to one-half of the lines serving Downtown near to or exceeding recommended capacities.

A comment was received indicating a basic misunderstanding over the meaning of the term "load factor". As is the industry-wide practice, ridership is sampled over various portions of individual transit lines. The sampling allows for the designation of maximum load points (the most riders on average at a given point on a transit route). The EIR analysis has used maximum load point data. The commenter was incorrect in assuming that ridership or the load factors are constant over the entire length of a transit line.

TABLE C&R E.9: MUNI LOAD FACTORS P.M. PEAK HOUR (4:30-5:30)

LINE	SEATS	PASSENGERS	LOAD FACTOR	VOLUME/CAPACITY RATIO (%)
1-CALIFORNIA	1,080	1,482	1.37	110%
1AX-CALIFORNIA "A" EXPRESS	195	223	1.14	91%
1BX-CALIFORNIA "B" EXPRESS	250	328	1.31	105%
2-CLEMENT	360	428	1.18	95%
3-JACKSON	310	331	1.07	85%
4-SUTTER	345	336	.97	78%
5-FULTON	790	815	1.03	82%
6-PARNASSUS	460	539	1.17	94%
7-HAIGHT	465	452	.97	77%
8-MARKET	600	607	1.01	81%
9-RICHLAND	375	419	1.12	89%
11-HOFFMAN	225	166	.74	59%
12-OCEAN	345	397	1.15	92%
14-MISSION	640	797	1.24	100%
14GL-GUERRERO LIMITED	350	369	1.05	84%
14X-MISSION EXPRESS	340	442	1.30	104%
15-THIRD	610	671	1.10	88%
16X-NORIEGA EXPRESS	250	362	1.45	116%
17X-PARKMERCED EXPRESS	225	171	.76	61%
19-POLK*	340	307	.90	72%
21-HAYES	545	577	1.06	85%
25-SAN BRUNO	395	467	1.18	95%
26-VALENCIA	275	278	1.01	81%
27-NOE	200	110	.55	44%
30-STOCKTON*	1,065	1,307	1.23	98%
30AX-FREEWAY "A" EXPRESS	240	343	1.43	114%
30BX-FREEWAY "B" EXPRESS	265	235	.87	71%
31-BALBOA	400	515	1.29	103%
31AX-BALBOA "A" EXPRESS	265	323	1.22	98%
31BX-BALBOA "B" EXPRESS	345	270	.78	63%
32-EMBARCADERO	475	454	.96	76%
38-GEARY	730	917	1.26	100%
38L-GEARY LIMITED	460	713	1.55	124%
38AX-GEARY "A" EXPRESS	370	389	1.05	84%
38BX-GEARY "B" EXPRESS	330	330	1.00	80%
41-UNION*	675	599	.89	71%
42-DOWNTOWN LOOP*	240	324	1.35	108%
45-GREENWICH	445	427	.96	77%
47-VAN NESS*	590	615	1.04	83%
58-LEAVENWORTH	N/A	N/A	N/A	N/A
59-POWELL/MASON	261	648	2.48	99%
60-POWELL/HYDE	203	293	1.44	65%
61-CALIFORNIA	306	447	1.46	66%
66-QUINTARA LIMITED	200	193	.97	77%
71-HAIGHT/NORIEGA	215	382	1.78	142%
72X-SUNSET EXPRESS	150	134	.89	71%
80X-GATEWAY EXPRESS	445	307	.69	55%
83-PACIFIC	N/A	N/A	N/A	N/A
J-CHURCH	830	840	1.01	51% **
K-INGLESIDE	796	1,171	1.47	74% **
L-TARAVAL	904	1,858	2.05	103% **
M-OCEANVIEW	537	1,051	1.96	98% **
N-JUDAH	1,068	1,861	1.74	87% **
TOTAL LRV	4,135	6,781	1.64	
TOTAL TROLLEY COACH	8,730	9,700	1.11	
TOTAL CABLE CAR	770	1,388	1.80	
TOTAL MOTOR COACH	9,145	10,151	1.11	
TOTAL SYSTEM	22,780	28,020	1.23	

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* This data is based upon data for the inbound direction, which is to be considered as the peak direction in this instance. In all other cases, the peak direction is considered as the outbound direction.

** Current capacity standards reflect a lower load factor for light rail vehicles, 1.60 or 109 passengers per vehicle rather than 2.0 which was equivalent to 136 passengers per vehicle. For the J, K, L, M & N lines volume to capacity ratios have been re-established at 65%, 84%, 111%, 106% and 96% respectively.

Note: Lines 39-COIT, 41-UNION/HOWARD, and 81X-CALTRANS EXPRESS were not included in this analysis.

Note: Capacity = 1.25 X 50 seats (trolley & motor coaches)
2.0 X 68 seats (light rail vehicles)
2.3 X 34 seats (california Street cable cars)
2.3 X 29 seats (Powell Street cable cars)

Sources: Prepared by the San Francisco Municipal Railway from Maximum Load Point checks Spring, Fall 1982, issued January 21, 1983.

TABLE C&R E.10: MUNI LOAD FACTORS P.M. PEAK PERIOD (4:00-6:00)

LINE	SEATS	PASSENGERS	LOAD FACTOR	VOLUME/CAPACITY RATIO (%)
1-CALIFORNIA	1,975	2,440	1.24	99%
1AX-CALIFORNIA "A" EXPRESS	395	388	.98	79%
1BX-CALIFORNIA "B" EXPRESS	475	502	1.05	85%
2-CLEMENT	620	741	1.19	96%
3-JACKSON	605	608	1.00	80%
4-SUTTER	675	630	.93	75%
5-FULTON	1,415	1,401	.99	79%
6-PARNASSUS	830	881	1.06	85%
7-HAIGHT	810	736	.91	73%
8-MARKET	1,125	1,068	.95	76%
9-RICHLAND	740	809	1.09	87%
11-HOFFMAN	425	277	.65	52%
12-OCEAN	740	787	1.06	85%
14-MISSION	1,155	1,352	1.17	94%
14GL-GUERRERO LIMITED	750	655	.87	70%
14X-MISSION EXPRESS	530	668	1.26	101%
15-THIRD	1,140	1,045	.92	73%
16X-NORIEGA EXPRESS	535	776	1.45	116%
17X-PARKMERCED EXPRESS	455	309	.68	54%
19-POLK*	760	640	.84	74%
21-HAYES	990	1,015	1.02	82%
25-SAN BRUNO	790	920	1.16	93%
26-VALENCIA	525	508	.97	77%
27-NOE	400	211	.53	42%
30-STOCKTON*	2,315	2,473	1.07	96%
30AX-FREEWAY "A" EXPRESS	420	583	1.38	111%
30BX-FREEWAY "B" EXPRESS	380	415	1.09	87%
31-BALBOA	825	978	1.18	95%
31AX-BALBOA "A" EXPRESS	400	490	1.22	98%
31BX-BALBOA "B" EXPRESS	460	388	.84	67%
32-EMBARCADERO	735	667	.91	73%
38-GEARY	1,410	1,743	1.24	99%
38L-GEARY LIMITED	900	1,377	1.53	122%
38AX-GEARY "A" EXPRESS	600	591	.99	79%
38BX-GEARY "B" EXPRESS	495	480	.97	78%
41-UNION*	1,375	1,147	.83	67%
42-DOWNTOWN LOOP*	600	687	1.14	92%
45-GREENWICH	830	763	.92	74%
47-VAN NESS*	1,115	1,150	1.03	82%
58-LEAVENWORTH	N/A	N/A	N/A	N/A
59-POWELL/MASON	638	1,449	2.27	99%
60-POWELL/HYDE	464	691	1.49	65%
61-CALIFORNIA	510	779	1.53	66%
66-QUINTARA LIMITED	450	364	.81	65%
71-HAIGHT/NORIEGA	490	744	1.52	121%
72X-SUNSET EXPRESS	365	330	.90	72%
80X-GATEWAY EXPRESS	595	348	.58	47%
83-PACIFIC	N/A	N/A	N/A	N/A
J-CHURCH	1,435	1,497	1.04	52% **
K-INGLESIDE	1,510	2,027	1.34	67% **
L-TARAVAL	1,680	2,975	1.77	88% **
M-OCEANVIEW	1,074	1,815	1.69	84% **
N-JUDAH	2,128	3,286	1.54	77% **
TOTAL LRV	7,827	11,600	1.48	
TOTAL TROLLEY COACH	16,695	17,260	1.03	
TOTAL CABLE CAR	1,612	2,919	1.81	
TOTAL MOTOR COACH	16,925	17,825	1.05	
TOTAL SYSTEM	43,059	49,604	1.15	

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* This data is based upon data for the inbound direction, which is to be considered as the peak direction in this instance. In all other cases, the peak direction is considered as the outbound direction.

** Current capacity standards reflect a lower load factor for light rail vehicles, 1.60 or 109 passengers per vehicle rather than 2.0 which was equivalent to 136 passengers per vehicle. For the J, K, L, M & N lines volume to capacity ratios have been re-established at 65%, 84%, 111%, 106% and 96% respectively.

Note: Lines 39-COIT, 41-UNION/HOWARD, and 81X-CALTRANS EXPRESS were not included in this analysis.

Note: Capacity = 1.25 X 50 seats (trolley & motor coaches)
2.0 X 68 seats (light rail vehicles)
2.3 X 34 seats (california Street cable cars)
2.3 X 29 seats (Powell Street cable cars)

Sources: Prepared by the San Francisco Municipal Railway from Maximum Load Point checks Spring, Fall 1982, issued January 21, 1983.

A comment was received stating that the former streetcar service from West Portal was better than the current Metro service. In one respect this is correct: the streetcars had more stops, providing a better distribution network for the riders. It was not without some cost, as more stops equaled longer running times and longer running times meant greater operational costs. So while the old system may have had some advantages, it was often much slower in overall travel time. In this case, the advantages of one system over another are subjective determinations.

E.2.2.1 Muni Ridership/Load Factors as Service Standards

Comments have been received indicating that the Muni service standards for crowding used in the EIR (passenger-per-seat ratio or load factor) are unacceptably high and inaccurately express ridership conditions.

In the last year, Muni has revised its service standards three times in order to better reflect passenger crowding on its transit lines. These revisions have reduced the amount of paper "excess capacity" of the Muni system. For example, the system service standard did not provide for capacity increases if ridership did not average 150%-200% of seated capacity over a two-hour period. The nature of the data base and the method employeed to calculate the average resulted in nearly every line showing excess capacity. Empirically, the riders and City staff (as well as the commenters) know this to be inaccurate. Therefore the standards were revised to incorporate the limitations of the data base and be more reflective of passengers' views and more consistent with the rest of the region's transit operators' standards.

The most current ridership standards are 125% of seated capacity for motor coaches and trolley coaches and 160% of seated capacity for Muni Metro over the peak period. The recent revisions to capacity standards are indicative of the steps that Muni has taken to establish more sensitive service standards. The text of the EIR does not need to be revised to reflect this change as the impact analysis measured ridership in terms of passenger-per-seat ratios and Level of Service designations rather than percent of total capacity. The Level of Service descriptions are nationally recognized measures of passenger comfort.

Physical design standards for transit vehicles, such as the Muni Metro fleet, do provide for standing room of at least twice the seated capacity. Transit passengers do not fully appreciate the need for transit operators to balance the competing values of comfort versus cost of service. As noted above, provision of extensive transit service at Levels of Service A and B, where passenger comfort is high, does not allow transit operators to generate sufficient fare box revenue to maintain financially viable systems.

The text quoted by one commenter from the Downtown Plan Draft EIR regarding loadings on Metro vehicles has been taken out of context. As stated on p. IV.E.8 of the EIR, Muni Metro vehicles can carry a higher ratio of total riders to seated riders than can bus transit vehicles. Because the Level of Service is calculated on the basis of bus transit vehicles, application of the bus transit Level of Service to the Muni Metro loadings would show worse than actual conditions. The relationship betwen bus transit Level of Service and light rail (Metro) Level of Service, shown in Interim Materials on Highway Capacity (Transportation Research Board, Circular 212, January 1980, pp. 73-114), is such that Level of Sevice D loadings on the light rail scale (1.51 to 2.00 passenger per seat) are Level of Service F loadings on the bus transit scale. Since the data shown in Table IV.E.2 of the EIR analyzes the Metro loadings on the basis of bus transit scale, the Metro loadings bias the Level of Sevice in the Southwest corridor. If the Metro loadings were analyzed on the basis of the rail transit scale, the Level of Service in the Southwest corridor would be better than that shown in Table IV.E.2.

E.2.2.2 Comparison of Muni Data Bases, EIR; Transportation Guidelines, Working Paper One

Comments have received suggesting that there is a discrepancy between the Transportation Guidelines (for 1981/82, and 1983), which show Muni ridership decreasing, and the Downtown Plan EIR, which projects ridership increases between 1981 and 1984.

It must be repeated that the Department of City Planning prepared Transportation Guidelines in 1978, 1980 and 1983. Since there is not a 1981 version of the Transportation Guidelines, it is not possible to compare the requested interval.

The 1978 Transportation Guidelines did not include line-by-line ridership loadings. The 1980 Transportation Guidelines (Attachment 3) line-by-line ridership figures were derived from 1979 and 1980 Muni counts. They do not show the loadings submitted by one commenter. For instance, the 1AX, 1BX, 31AX, 31BX, 38AX, and 38BX lines did not go into service until 1982, and the 2 and 4 lines were reconfigured in 1979 and 1981, respectively. Therefore direct comparison of ridership is not meaningful.

Comparison of ridership on the K, L, M, N lines from the submitted table shows a variation of 166 riders or less than three percent. Peak-hour ridership can vary up to ten percent on a daily basis depending upon weather conditions, seasonal differences, day of the week, etc. Thus, conclusions about ridership increases or decreases can not appropriately be drawn from the material in the comment.

Tables C&R E.9-10 show baseline line-by-line passenger loadings used in the preparation of the EIR. In making comparisons between the Muni loadings from the 1983 Transportation Guidelines and those used as the basis for the EIR analysis, it should be noted that somewhat different approaches were taken in aggregating and using the data for peak-hour and peak-period ridership. Further, the EIR and the 1983 Transportation Guidelines data were not taken from identical time periods. The EIR base data shows slightly higher ridership on the Richmond and Metro lines compared to the 1983 Transportation Guidelines.

The data used as the basis for the preparation of the 1983 Transportation Guidelines were taken from the S.F. Municipal Railway Maximum Load Point checks (1981-1983) issued April 11, 1983.

With regard to the letter from Muni included in the comment, Mr. Geissenheimer is describing conditions only on the 38-Geary lines, which are part of the Northwest corridor analysis of the EIR. The original Muni-supplied data for the loadings on the 38-Geary lines for 1982 can be seen in Tables C&R E.9-10. The loading data used as the basis of the EIR analysis indicate that in mid-1982 only the 38-Limited line operated over 1.5 passengers per seat during the peak hour and peak period. The data cited by Mr. Geissenheimer may differ from the data shown above because of differences in where loads on the 38-Geary lines were counted, which counts were averaged, and when the counts were made. As noted above, loadings on individual transit routes vary by day of the week and by season of the year.

With regard to the consistency of the data between that shown above and the loadings referred to by Mr. Geissenheimer, the two sets of line-by-line loading data are not directly comparable since they are from different years (i.e., 1981/82 versus 1983). Comparison of the 1984 loadings from the analysis based on the Downtown Plan EIR must be on a corridor basis, as line-by-line loadings cannot be derived from the EIR analysis. As described in the EIR, the ratios shown in the tables are for one- and two-hour periods of time aggregated over multiple lines, and thus the loadings on any one line cannot be derived from the loadings in the table. Additionally, even in a line-by-line context, the loadings on individual transit vehicles cannot be derived from the above data since the data are aggregated from multiple vehicles over one and two-hour periods.

A commenter has pointed out that there appears to be a discrepancy in the description of Muni service between Working Paper One and the Downtown Plan EIR in that Working Paper One, prepared in 1982, inferred that Muni was at capacity, while the EIR shows loadings of less than capacity for 1984. When Working Paper One was prepared in 1982, Muni ridership was not greater than in 1984. Muni staff believes that Downtown service is at capacity during the a.m. and p.m. one-hour peaks; however there is not a strong statistical basis for presuming that average peak-hour ridership exceeded a passenger-per-seat ratio of 1.5 (see Table C&R E.9). As noted above, Muni supplied the data, participated in the development of impact methodology, and reviewed the results for the EIR.

E.2.2.3 Surface Transit Operation and Traffic Congestion

As noted in the comments, the Downtown Plan EIR acknowledges that Muni operations will be impeded by increased congestion. To the extent that congestion currently impeding operation is inherent in the baseline data used, the future analysis has included congestion effects. Because congestion effects are stated to be an impact on transit operations, several mitigation measures are presented in Section V.E of the EIR that would reduce the impact of congestion on Muni (see pp. V.E.15-19, especially Measures 19 and 20). The impacts analysis did not assume that mitigation measures (such as additional transit preferential street improvements) would be in place in order to provide worst case analysis.

The EIR, p. IV.E.8, paragraph 3, notes that ". . . constraints of operating on heavily used streets in and around the C-3 District causes transit vehicle bunching, loss of running time and lack of schedule adherence which inevitably reduce service, reliability, and ultimately, capacity."

It is not possible to accurately quantify the amount of additional running time (or associated costs) that would be result from future congestion, since conditions vary on a day-to-day basis. For example, traffic conditions during the Christmas season are not representative of normal conditions. The especially high traffic volumes on Stockton St. during the Christmas season, generated by the Union Square retail district, aggravate existing weekday and weekend traffic congestion on Stockton St. through Chinatown. This congestion in Chinatown is due to the narrow one-lane northbound design of the street, double-parking, and intensive sidewalk activity.

Commenters have also raised questions whether future transit capital costs are underestimated because of gridlock. This is a complex issue which does not lend itself to quantification, particularly in a future context. Operating speed estimates would require: knowledge of future vehicle types and models; distribution of transit stops; distribution of traffic volumes; distribution of pedestrian volumes; level of traffic enforcement; and detailed baseline information of existing running time delays on all lines. The Municipal Railway will be undertaking running time studies over the next year in an effort to develop baseline data.

Traffic and transit operational Mitigation Measures 20, 26, 27, 28, 29, 30, 31, 35, 37, 43, 46 and 50 have been proposed to respond to these concerns. Additionally, traffic enforcement and improvements to transit lanes can make more efficient use of existing and proposed fleets. Significant running time improvements could be achieved if Mitigation Measure 19 is undertaken and found feasible.

One commenter suggested that because Muni has not been able to maintain its full complement of service due to lack of equipment, mechanical breakdowns, and lost running time attributable to traffic congestion, existing and future transit capacities should be reduced.

The EIR is cognizant of these operating difficulties that have beset Muni over the years. For that reason, actual capacity (as opposed to scheduled or theoretical capacity) and actual ridership statistics were used in the transit analysis (see Tables C&R E.9-10). As the actual systemwide conditions were used (which in itself represents a sustantial discount) it would misstate ridership conditions to further discount capacities as the comment suggests.

Examination of multi-year records regarding equipment availability and lost runs attributable to breakdowns would not provide any more information than can be drawn from the supplied empirical data. Comprehensive operational data (comparable to that used in the EIR) are only available for the last two-to-four years rather than ten as stated by the comment.

A comment was received requesting additional discussion on transit service access to and from Chinatown. The nature of the future travel projections is such that it is not possible to accurately assess future transit demand on specific transit lines, e.g., the Number 1, 15 and 30 lines. However, as seen on Table C&R E.9 of this document, the existing use of the aforemented lines is very high. It is for this reason, that specific mitigation measures have been proposed (see EIR p. V.E.15-16) to improve the running times of these lines.

Comments were received asking that the effect of transit congestion on new residential neighborhoods be analyzed. As discussed on pp.V.E.3-4 of the EIR, the most notable new residential neighborhood, Golden Gateway, has journey-to-work characteristics that are expected to be replicated in other new close-in neighborhoods. "Of Golden Gateway Center residents, 70% walked to work and equal portions of the residents traveled to work by private cars or transit (12.5% each). The more housing that is produced in these close-in areas, the fewer transit and auto impacts that would result from housing Downtown workers." Mitigation measures (pp.V.E.7, 17, 19, 20, 22, and 46 of the EIR) have been proposed that would serve these new neigborhoods as well as existing uses.

Local and national demographic data show a strong empirical relationship between automobile ownership, residential density, distance from Downtown, and frequency of transit service./3,8/ In combination, these factors tend to suppress automobile ownership. As can be seen in Figure C&R E.3, car ownership is lowest in the close-in neighborhoods where transit service is frequent and residential densities are highest. These relationships are consistent with the planning assumptions used in the preparation of new residential neighborhood plans (i.e. Rincon Hill and Van Ness Avenue Plans).

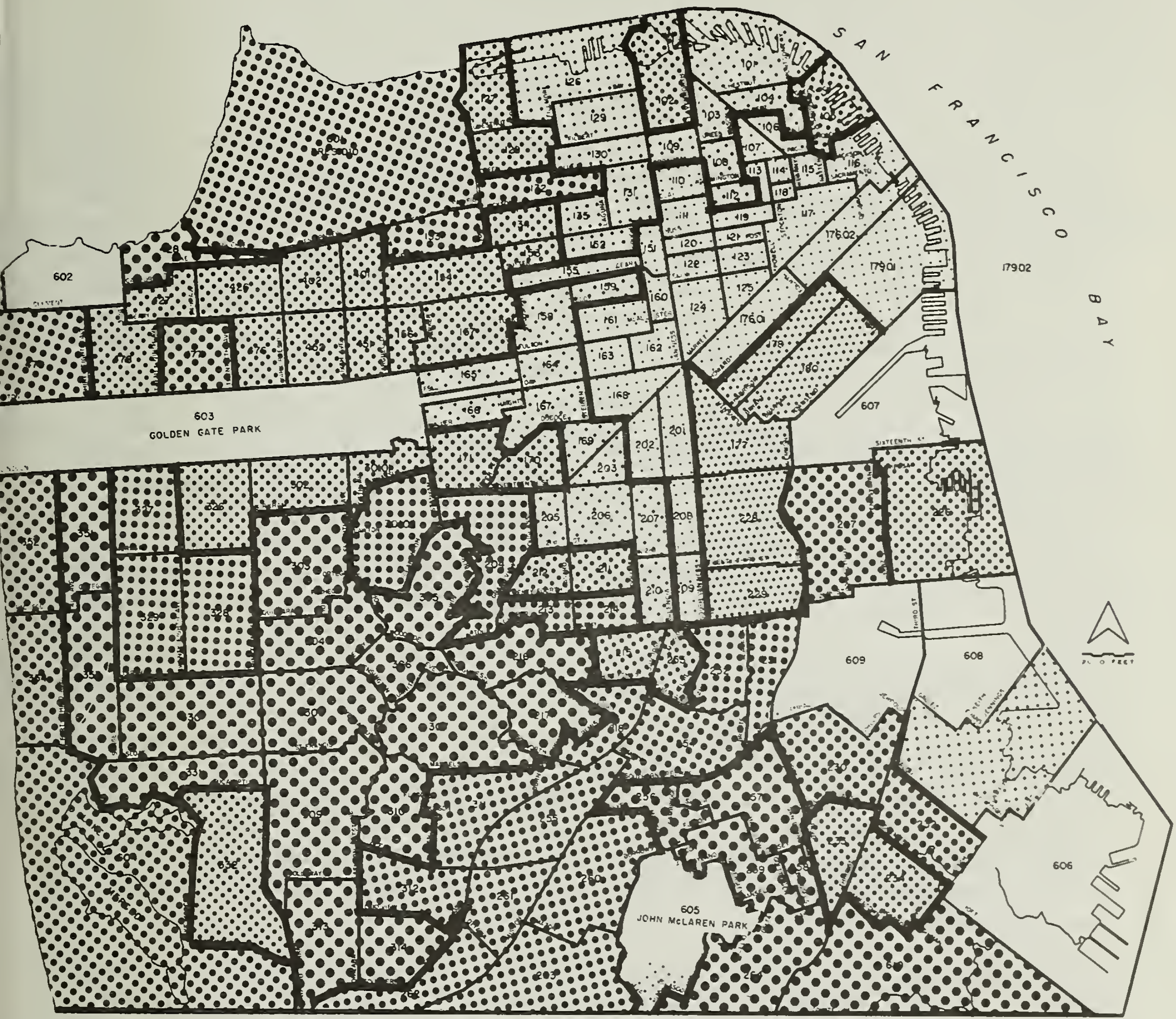
E.2.3 BART

Commenters have expressed concern regarding the impact of persons commuting from the Peninsula into San Francisco by noting: that Peninsula residents have the highest auto use; that San Mateo County should buy into the BART system; and that the impact of Peninsula residents was muddied by the inclusion of proposed BART extensions in the base assumptions in the impact analysis.

An additional comment was made regarding the status of pending state legislative action Senate Concurrent Resolution 74 (SCR #74).

This concern over Peninsula corridor access to and from San Francisco is shared by City and regional staff as well as the State Legislature. Indeed, it has engendered the state mandated study, SCR#74. SCR #74 was enacted by the State Legislature on June 5, 1984. It requests that the Metropolitan Transportation Commission (MTC), in cooperation with the Department of Transportation (CalTrans), transit operators and local governments in the San Jose - San Francisco Corridor, develop a mass transit system plan and incremental improvement plan for the corridor. These plans are to be completed and submitted to the Legislature no later than March 1, 1985. This action by the California Senate is likely to provide the needed impetus to resolve longstanding inter-jurisdictional differences regarding Peninsula transit development. SCR #74 is not likely to mitigate travel demand; rather it should provide the policy framework for determining the type and nature of rail service appropriate for the corridor.

The Peninsula has the greatest amount of auto access to San Francisco (relative to other corridors), the least in the way of capacity constraints (no toll bridges), the least in terms of ridesharing incentives (no diamond lanes or HOV treatments) as well as the lowest overall transit utilization, again relative to other corridors. It is for this reason that the Downtown Plan and the proposed revisions call for implementation of a regional mass



CARS PER HOUSEHOLD

- ▩ 1.31+
- ▩ 1.11 - 1.30
- ▩ 0.91 - 1.10
- ▨ 0.61 - 0.90
- ▨ 0.10 - 0.60
- ☐ LESS THAN 0.10

FIGURE C&R E.3
CAR OWNERSHIP PER SAN
FRANCISCO HOUSEHOLD

SOURCE: 1980 Census

transit system for the Peninsula corridor (see p. 118, Downtown Plan and p. 24, Proposed Revisions to the Plan). As the EIR considered several Peninsula rail projects as Mitigation Measures (pp. V.E.5, 8)the proposed revision to the Downtown Plan does not necessitate an EIR text change.

The EIR did not presume that the proposed BART extensions would be in place in the impacts analysis in order to provide a realistic worst case analysis. The proposed rail extensions are discussed under Mitigation Measures, pp. V.E.4-5 of the EIR. Mitigation measures are available, and appear likely (although they can not be absolutely assured) to respond to the identified regional travel needs. Construction of the new BART turn-back tracks in Colma has been treated as a rail modernization project rather than an extension since the project, as currently proposed, would not add any new stations. The turn-back was included as part of the future transit capacity assumed in the impact analysis. The Colma turn-back has the potential to allow the addition of a new BART station between Old Mission Road, Junipero Serra Blvd., San Pedro Road, and "C" Street in Colma. The San Mateo County Transit District (SamTrans) has been banking locally generated sales tax revenue which could partially or fully pay for the cost of the new station./11/ Further extensions of BART into San Mateo County (to or near the San Francisco Airport) would serve approximately two-thirds of the Peninsula residents who work in Downtown San Francisco. The equity issues associated with a BART extension outside of the District are likely to require resolution at the state legislative level. SCR #74 will facilitate regional discussion of this topic.

It has been suggested by some commenters that San Francisco could subsume some or all of the region's transit supply. The only carrier for whom that represents a remote possibility is BART as all other transit service analyzed provides radial service to San Francisco on an almost-exclusive (express) basis. The EIR analysis (p. IV.E.8 and Figure IV.E.1) measured the impacts of regional transit at the perimeter of the Greater Downtown area (where travelers from the C-3 District are most concentrated). BART is the only system analyzed that provides substantial service to destinations other than San Francisco.

BART's ridership is most concentrated in the Transbay Tube (its maximum load point). If BART demand from outside San Francisco increases, especially to East Bay destinations like Downtown Oakland and Berkeley, ridership could be added without affecting service to the San Francisco market. Discussions with BART staff have confirmed that the completion of the Oakland Wye track (in 1986) would physically allow the institution of two new routes using the existing track configuration. A Concord-Oakland short line could be developed, as could a Concord-Fremont line. Increased ridership demand on the Richmond-Fremont, Fremont-Daly City, and Richmond-Daly City lines can be absorbed with the additional equipment that has been ordered (these lines regularly operate trains with less than the maximum allowable 10 cars).

Commenters have requested that additional information be provided regarding the difference between BART's scheduled and actual service capabilities. As reported in BART's Five-year Plans for the last several years, BART has been completing 98-99% of its scheduled runs. As noted above, the EIR used actual service rather than scheduled service in the transportation analysis in order to provide an objective assessment of future impacts.

BART plans to accommodate more riders in the peak hour than the EIR has projected. In 1984, BART projects 700 more riders travelling transbay and 600 south of Civic Center than does the EIR. In 1990, BART expects to carry 2,200 more passengers transbay and 700 more south of Civic Center than was projected in the EIR. New service in addition to that assumed in the EIR will be phased in over the next five years starting in Fall 1984 with two new transbay trains.

BART's comments contained a request to revise the BART data in Table VII.E.1 for the years 1984 and 1990 to be consistent with the data in BART's 1984 "Short-Range Transit Plan." Because the data in Table VII.E.1 is generated by the travel demand model, it would be misleading and inaccurate to incorporate projections from alternative sources that use different projection methodologies.

In response to a comment, page V.E.4, paragraph three should be revised to read as follows:

> "The BART expansion program consists of seven key projects all of which are currently being implemented. This program would provide the capacity increases assumed for the 1990 analysis of approximately 40% over 1981-82."

BART has revised its peak-hour Load Factor upward from 1.3 to 1.5. The discussion of BART's existing and forecast Level of Service should be revised to reflect this change in assumptions. The following paragraphs on pp. IV.E.27-30 and Table IV.E.4, p. IV.E.36, should be revised to remove the indications of BART's Load Factor at 1.3 (this change results in a change in the conclusions reached regarding BART's ability to meet its service goals):

[Material in brackets is text to be removed; material underlined is new text]

Page IV.E.27, paragraph 4, to top of p. IV.E.28:

> "It is important to note that the Five-Year Plan improvements for the transit system are designed to not only provide for future demand increases, but also to improve service levels from existing conditions. In order for new vehicle acquisitions to represent expansion of system capacity and not simple replacement, operating revenues would similarly need to be increased. During the 1990 peak hour, Muni service to the Northwest and the Southwest [and BART service Transbay] would exceed the desirable passengers per seat ratio[s] of 1.25 [and 1.30, respectively]./14/ Although the transit demand in the [three] two corridors in excess of the desirable loadings would be accommodated under crowded conditions and, thus would not be excess demand, demand in excess of the desirable loadings would mean that additional transit service over that assumed to occur by 1990 would need to be provided to allow transit operations in the [three] two corridors to meet the goals set by Muni [and BART] (see Table IV.E.4, p. IV.E.36). To meet the goal of 1.25 passengers per seat in the peak hour, Muni would have to increase service by about one percent in the Northwest corridor and by about 15% in the Southwest corridor over the amount of service assumed to occur in 1990. [To meet the goal of 1.30 passengers per seat, BART would have to provide a Transbay service increase of nine percent over the amount of service assumed to occur by 1990.]"

Page IV.E.30, paragraph 1:

> "As stated above, Muni's goals are to maintain passengers per seat ratios of 1.25 of less (Level of Service D)./14/ Thus, Muni service to the Southwest would need to be increased by an additional 14% between the years 1990 and 2000. [BART's goals are to maintain loadings of 1.3 passengers per seat which would require an additional 9% service increase transbay over the levels assumed to occur in the year 2000./14/]"

Page V.E.5, paragraph 1:

> "program would provide for the service increases assumed in the impact analysis. This is essential to accommodate peak period demand due to planned growth. [These planned BART improvements would not be sufficient to accommodate its ridership within the system's recommended load factor.] Additional rolling stock would be necessary to [satisfy projected demand as well as] absorb an estimated 1,300 motorists (who represent excess peak-period demand on the Bay Bridge).

The citation to BART's Five-Year Plan in note 14, page IV.E.47 should also be removed. The "East Bay" column of Table IV.E.4, page IV.E.36, should be revised as follows to account for the BART Load Factor revision:

TABLE IV.E.4: C-3 DISTRICT EXCESS TRAVEL DEMAND BY TRAVEL CORRIDOR, 1984, 1990 AND 2000 UNDER THE DOWNTOWN PLAN (a)

	Northeast	Norhtwest	Southwest	Southeast	Peninsula	East Bay	North Bay
1984 Peak Hour							
Auto (b)							
Transit (c)		100	1,900			300	
Total		100	1,900			300	
1984 Peak Period							
Auto (b)							
Transit (c)			1,100			700	
Total			1,100			700	
1990 Peak Hour							
Auto (b)					100	700	
Transit (c)		100	2,000				
Total		100	2,000		100	700	
1990 Peak Period							
Auto (b)						500	100
Transit (c)			900			2,700	
Total			900			3,200	100
2000 Peak Hour							
Auto (b)					1,000	1,300	
Transit (c)			2,000				
Total			2,000		1,000	1,300	
2000 Peak Period							
Auto (b)					500	1,300	500
Transit (c)			800				
Total			800		500	1,300	500

(a) The values in this table are calculated on the basis of the Goals of the Downtown Plan regarding increased ridesharing and transit use not being achieved.
(b) Excess travel demand in the Drive Alone mode category.
(c) Demand in excess of the desired loadings on transit agencies.

SOURCE: Environmental Science Associates, Inc.

E.2.4 AC Transit

Commenters have correctly noted that AC Transit's projected ridership is not expected to increase at the same rate as BART's East Bay ridership. The comments further suggest that traffic congestion on the "Bay Bridge" might be a factor.

As stated in the EIR on p. J.26, the estimated ridership is based on the AC Transit Five-Year Plan which projects no capacity increases in the Transbay corridor. This capacity constraint results in an assumption of a shift away from that operator (i.e. loss of market share). AC's ridership has generally leveled off in recent years. A number of factors could be influencing this change; for example, informal carpooling has been on the increase, siphoning off potential AC passengers from East Bay busstops. The ability to bypass traffic congestion at the toll plaza is probably a major factor in encouraging the informal carpooling that occurs at AC busstops. Improvements in BART's reliability has also cut into AC's ridership market.

At present, AC Transit may not have sufficient resources to expand service, whereas BART has an ambitious expansion program that is currently underway (see p. V.E.4 of EIR). It is expected that BART capacity increases will absorb much of the new Downtown demand.

AC Transit transbay service serves a developed portion of the East Bay, within which the potential to absorb new demand from C-3 District commuters is limited. BART, conversely, provides service to developing areas of the East Bay where increases in residential populations are more likely to occur. Also, on the basis of existing conditions, BART riders appear to be able to tolerate higher levels of loadings than AC Transit passengers.

AC Transit is beginning a multi-year planning, operations and maketing study for its service area. The first service changes, which will be instituted this fall and winter, resulted from an impending operating deficit. However, future route re-structuring will be proposed to improve intra-East Bay and transbay access (e.g. some local service will be converted to limited or express service on longer lines in order to improve transit travel time and to allow the use of articulated buses). One of the proposals was approved on August 22, when the BART Board of Directors approved transfer of $3 million to AC Transit for feeder service to BART stations. This service will shift off-peak direct service between the East Bay and San Francisco on the B, C, E and K lines to service terminating at BART stations, with a fare discount to equalize the cost to riders. This change in service will reduce the cost of running nearly-empty buses to San Francisco during non-commute hours when BART capacity is available. The EIR analyses need not be revised, as peak-period AC Transit service to and from San Francisco would not be affected.

A comment notes that there appears to be an inconsistency between the data for AC Transit shown in Working Paper One and the EIR. The comment noted that AC's morning three-hour a.m. peak shown in Working Paper One has a load factor of 1.05 and that the EIR shows AC's p.m. peak hour to have a passenger-per-seat ratio of 0.88 for 1981/82. The data bases for the two studies are from different time periods, 1981 for Working Paper One and 1982 for the EIR. Additionally, the EIR data is a comprehensive set of AC Transit load checks taken only for a 4:30 p.m. to 5:30 p.m. time period whereas the Working Paper One data is comprised of load checks throughout the whole a.m. peak period. Because the two data sets are dissimilar, it is not appropriate to compare the data. AC Transit has not raised issue with the data used in the EIR. Regarding the need for a.m. analysis of AC, recent discussion with AC staff have revealed that AC's peak demand has shifted from a sharp a.m. peak to a p.m. peak (L.A. Kimball, AC Transit General Manager, July 30, 1984).

Another comment correctly notes that the non-C-3 portion of the AC Transit ridership appears to have been omitted from the analysis for the years 1990 and 2000 in the Consultant's Report (Growth Management Alternatives for Downtown San Francisco, Environmental Science Associates, May 1983). As shown in Table IV.E.2 of the EIR (p. IV.E.29) and supported by the calculations on file with the Department of City Planning, this omission has been rectified and the AC Transit projections shown in Table IV.E.2 of the EIR contain the non-C-3 ridership components.

E.2.5 Golden Gate Transit

Comments that were received are concerned about the ability of Golden Gate Bridge Highway and Transportation District (Golden Gate Transit) to absorb an approximate 114% increase in transit ridership over the next 16 years.

The EIR (pp. J.12, and IV.E.25) projects that Golden Gate Transit demand will increase by approximately two-thirds between 1984 and 2000. The basis of the 114% increase was not cited by the commenter.

As shown on Table C&R-E.7 of this document, Golden Gate Transit derives approximately half of its operating revenue from the farebox and a third from toll bridge revenues. State and federal operating assistance supplements these two main sources. Funds for capital acquisition are available from a number of state and federal sources. Funds from operation are available from Bridge revenues, which are set by the District itself, and the farebox receipts.

The commenter has correctly noted that there is a discrepancy in the Consultant's Report between the apparent number of C-3 riders assigned to Golden Gate Transit buses and the number of riders analyzed at the screenline. As shown in Table IV.E.2 of the EIR (p. IV.E.29 of the EIR) the Golden Gate Transit data has been revised from that used in the Consultant's Report to reflect actual conditions better. Comparison with the data shown in Table J.4, p. J.12 of the EIR, shows that the ridership analyzed at the screenline for Golden Gate Transit includes the correct C-3 District ridership.

E.2.6 CalTrans Transit Projects

Comments were received indicating that the EIR underestimated or did not address fully the impact of two CalTrans projects (the expansion of the Transbay Transit Terminal and the extension of the CalTrain to a site adjacent to Transbay Transit Terminal).

The ridership data for CalTrain shown in Table IV.E.2 of the EIR are projections made using 1981/82 CalTrain data as a base. As noted in Appendix J of the EIR, the CalTrain extension to downtown has not been assumed to occur; all other improvements proposed by CalTrain have been assumed to occur. Thus, only the effect of additional ridership that may be attracted by an extension has not been numerically analyzed in the impact analysis. To the extent that additional riders are attracted to CalTrain from autos, projected parking and traffic impacts would lessen. The EIR discusses the ridership implications of the extension of CalTrain service in Mitigation Measure 9, p. V.E.8.

The CalTrain ridership estimates of 20,000 passengers in 1990 and 100,000 passengers in 2000 cited by one commenter refer to the entire system-wide (two directional, San Francisco to San Jose) volumes. The EIR discusses only the segment of passengers who arrive or depart from the San Francisco terminal. The I-280 Transfer Concept Program Study and the San Francisco Commuter Rail Terminal Relocation Study provided the basis of projected ridership increases. Both studies were prepared by the commenter, CalTrans.

The expansion of the Transbay Transit Terminal is not expected to create an increase in transit ridership, in and of itself. Rather, the Terminal expansion has been proposed to serve additional transit demand for regional and long-haul carriers.

E.2.7 Transit Financing

E.2.7.1 Transit Marginal Cost

Commenters have requested that the EIR develop a policy and a method for calculating marginal cost estimates for each new project and require the project to generate sufficient revenue to offset those local and regional costs.

The Municipal Railway has developed marginal cost estimates that are the basis of the Transit Development Impact Fee Ordinance. The Fee is expected to augment other revenue sources to pay for the incremental operating and capital costs of additional transit service required by new Downtown development. These estimates are, by ordinance, revised annually.

It is outside of the scope of the EIR to independently develop "marginal cost estimates" for incremental regional transit service to Downtown particularly as "Marginal Costs" have a rather precise meaning. These costs are more appropriately prepared by the transit operators themselves. City staff have discussed marginal cost estimates for Downtown service with each of the transit properties. There does not appear to be a reasonable method of assessing these costs.

BART does not maintain marginal cost estimates for its San Francisco service. The average cost of its peak period service includes all of its service network. Approximately 33% of BART's daily ridership arrives or departs from the four Downtown BART Stations. While it is difficult to match specific costs with revenues (especially in the future), BART does benefit from increased property and sales taxes derived from San Francisco. Further, the nature of BART's system is such that capacity increases to accommodate increased demand will be capital intensive (expanded physical plant); rather, the labor intensive and thus average operating cost per passenger is likely to decline in real terms in the future especially since grants to cover capital projects have been easier to secure than have operating subsidies in the past.

SamTrans does not maintain marginal cost estimates for existing or future Downtown service. Golden Gate Transit does not maintain marginal cost estimates for existing or future Downtown service. While the majority of the District's transit service is directed towards reducing Bridge traffic, and thus, traffic to Downtown San Francisco, commute service costs are combined with "Basic Service" in the District's financial records.

AC Transit does not maintain a statistic on "marginal cost" per trip for either the Transbay service or the District as a whole. Although it is believed that Transbay service would have a smaller than average marginal cost compared to the rest of the service area because of a different fare structure and operating conditions on Transbay service.

There would be no marginal costs associated with expanding CalTrain service. As noted in a comment received from CalTrain (CalTrans) on the DEIR and shown on pp. IV.E.29 and J.26 of the EIR, there is ample excess capacity on the Peninsula commute service and it can be further increased by simply adding more cars to each train if ridership warrants it.

One commenter suggested an original method of calculating marginal costs. That comment directed that all additional operating costs be summed along with annualized additional capital costs and then simply dividing through by the number of peak-hour passengers. The operators do not uniformly maintain pro-rata Downtown San Francisco operating costs. Transit capital costs are typically upfront costs that are shared by the federal, state and local forms of government as a one-time cost that is expected to have a certain set lifespan. The suggested approach does not include any farebox revenues so the result would seriously overstate marginal costs.

E.2.7.2 Transit Development Impact Fee

A comment was received indicating the DEIR was incomplete because it lacked discussion regarding the implementation of the Transit Development Impact Fee (TDIF) in the Yerba Buena Center Area. The Transit Development Fee Ordinance does not exclude, exempt, or "grandfather" any projects within the Yerba Buena Center from payment of the Transit Development Impact Fee.

Commenters have correctly noted that the TDIF does not provide for full cost recovery. This owes to the legislative design adopted by the San Francisco Board of Supervisors. The TDIF Ordinance is being challenged by the development community as to its constitutionality under the provisions of Proposition 13. The California Superior Court in its Tentative Decision No. 780795 of September 27, 1984 has concluded that the TDIF Ordinance is a valid exercise of local Police Power. However, it is anticipated that the plaintiffs may avail themselves of the complete appeals process which could take several more years. No major modifications are anticipated to be enacted until the case has been fully adjudicated. Therefore, commenters proposals to raise the established fee amount will not be pursued by City staff at this time.

Commenters have suggested that the development community bear a greater burden of regional transit cost. The commenters have indicated that the Transit Development Impact Fee or similar legislation be expanded to cover costs borne by regional carriers. As has been suggested earlier, regional transit carriers have been unable to develop a method of estimating regional marginal costs associated with Downtown service. This information would be critical to the establishment of a reasonable method of attributing costs and benefits if this were to be pursued. However, as the TDIF Ordinance is being challenged, no fundamental changes are anticipated to be proposed by City staff at this time. Further, the lack of City of San Francisco participation in the planning, marketing, and administration of SamTrans, CalTrans, BART, and AC Transit make it probable that this form of income transfer or cross-subsidization would not have the broad support of San Francisco's elected officials.

E.2.7.3 Transit Assessment District

Commenters have suggested that a Transit Assessment District be established in order to provide an ongoing source of revenue for transit service Downtown. This approach was considered by the Board of Supervisors in 1981 and 1982. However, it became clear as a part of the public hearing process that political consensus could not be achieved. Thus the matter was tabled indefinitely. The advantages of an assessment district are that the costs for provision of service are spread to all property-owners and thus are shared more "equitably". The disadvantages are that assessment districts require the consent of the majority of property owners. Most people are reluctant to tax themselves which makes it difficult to form assessment districts. For the aforementioned reasons, the measure did not seem promising and was not included in the Downtown Plan or the EIR.

E.2.7.4 Cross-Subsidization and Financial Equity

Commenters have complained that East Bay residents should not pay increased BART fares or taxes to support a system that serves San Francisco. Comments seem to suggest that employment growth in Downtown San Francisco will cause a higher proportion of East Bay residents to work in San Francisco in the future, thus adding an unprecedented burden to East Bay systems. This would not be the case. The proportion of C-3 workers to total employed population is expected to remain essentially the same as it is today, at less than 10% (see Table R-1, p. 121 in the 505 Montgomery FEIR Responses to Comments, Case 82.463E, certified on June 28, 1984). Therefore, it is not appropriate to target BART subsidies based on a change in the nature of the East Bay working population. Travel to jobs in the East Bay is and is forecast to remain the majority of work-related travel by East Bay residents. Transit demand, as well as housing needs, in the East Bay are affected by numerous factors that are unrelated to C-3 District employment.

It is also not accurate to assume that East Bay residents pay for all or even the majority of the costs of transporting workers to downtown San Francisco. The 1/2 cent sales tax added to retail sales tax on purchases made in the BART district is collected in all three BART counties--Alameda, Contra Costa and San Francisco. The total revenues for fiscal year 83-84 were distributed to three operators: BART (71%), AC Transit (17%) and MUNI (12%). About $32.3 million was disbursed in fiscal year 83-84 from San Francisco sales taxes, of which $23 million went to BART and $5.5 million went to AC Transit. Thus, East Bay BART and AC Transit users benefit from this cross subsidization; all of the support does not come from the East Bay. Much of the present BART improvement program (e.g., the Oakland Wye track) will benefit East Bay users more than San Francisco commuters. (See also Section P.2 and 2.3.)

Other commenters raised the issue of use of Muni by non-San Franciscans. This is an old regional equity issue that is beyond the scope of this EIR, on C-3 District policies, to remedy. San Franciscans do support Muni in a fundamental financial way through San Francisco property taxes. In 1984-85 the City and County will provide approximately $100 million to subsidize Muni transit service. However, some portion of the charges in the Transit Development Impact Fee accounts for use of Muni by non-City residents who commute in San Francisco during the peak period, even if Muni is a "secondary mode" (i.e., the commuter uses Muni to reach the main transportation service from work to home). Thus some proportion of Muni costs will be paid on behalf of non-City residents who use the system during peak periods.

The transit funding services do include Federal and State grants, as noted by several commenters. This form of cross-subsidization is a by-product of the method of funding developed by the Bureau of Public Roads (BPR) to finance construction of Farm-to-Market roads (Federal Aid Primary system) in the early 1900's. Cross-subsidization in the BPR days was not an issue since most areas benefitted equally from construction of the FAP system. However, when the BPR became the Federal Highway Administration (FHWA), and proceeded to use the same financing system to construct the Federal Aid Interstate (FAI) system, cross-subsidization became more apparent, since only limited areas benefitted from the FAI system. UMTA, as a parallel branch (to the FHWA) of the U.S. Department of Transportation, utilizes similar financing management to construct rail transit systems. Since only intensely developed urban areas can support rail transit systems, cross-subsidization is even more apparent in the UMTA financing. Short of restructuring the process by which Federal funds are distributed for transportation projects, cross-subsidization in transit financing cannot be eliminated.

No transit operator receives full operating funding solely from farebox receipts, in part because, as one commenter notes, these fares would be prohibitively high. Muni fare increases of a few years ago have not kept pace with inflation and thus were not expected to cause serious ridership loss.

E.3. TRAFFIC

E.3.1 Freeways and Bridges

The comments received on the DEIR indicate that there is confusion over the term "Highway Level of Service" and that this has caused one commenter to misinterpret speed-flow relationships and Levels of Service. The Highway Capacity Manual (Highway Research Board, Special Report 87, 1965), employs a dotted line to indicate Level of Service F conditions on a speed-flow plot

(p. 81, Figure 4.1 of the Manual). As explained in the text of the Manual, there is no physical relationship that corresponds to the dotted line in the figure. Rather, Level of Service F is a condition of non-flow, as operations are jammed and flow is sporadic. Thus, Level of Service E represents the highest possible flow past a point of measurement. Because of the empirical data (see Figure 3.44, p. 66 of the Manual) used to develop the Level of Service scale, flows at Level of Service E (as stated on p. of the EIR) are approximately 35 mph for facilities with average highway (uncongested) speeds of 50 mph or higher. Should the comment be intended to illustrate gradations in Level of Service F conditions, the speed/flow and Level of Service relationship would need to be replaced by flow-density (vehicles per lane per mile) relationships from which conditions from "free flow" to "jam" density could be determined. Such data has a limited utility, as the relationships are complex and subject to misinterpretation. For further discussion, refer to pp. 49-70 of Traffic Flow Theory (Transportation Research Board Special Report 165, Gerlough and Huber, 1975).

"Excess demand", as defined in the EIR, is unshifted C-3 auto demand at the regional screenlines. The text, on p. IV.E.34, describes future conditions as Level of Service E although the excess demand (reported in Table IV.E.4) is shown in the volumes reported in Table IV.E.3, p. IV.E.35 of the EIR. The EIR text has been written on the basis of the assumption that traffic flow concepts will prevail in the future, i.e., motorists will seek out alternate routes or modes that will provide optimum travel times such that freeway flows would operate at or near capacity (Level of Service E) on the average. Because Level of Service F is a non-flow condition, it would not be accurate to imply that freeway traffic would endlessly queue when alternate routes and modes are available.

Because the transportation analyses assumed only limited increases in transit service and carpool use, the travel demand assignments result in an excess of C-3 District demand in the drive alone mode, i.e., if more transit and carpool incentives were not made available and attractive, mode shifts can not be assumed to occur, leaving about 2,300 vehicles as "demand" that would not fit on roads and highways during the peak hour. If the Goals of the Plan were met, this excess demand for auto space could be accommodated by transit and car/vanpools (see EIR disccussion on pp. IV.E.22 and IV.E.33)./12/

Comments have been received that suggest that the traffic analysis is not accurate because highway capacities were not discounted to account for accidents, chemical spills, fires and inclement weather.

The traffic data used in the Downtown Plan EIR show representative average peak-period traffic conditions (less than optimal capacity). The data do not reflect seasonal peak conditions (such as holidays) or conditions impeded by inclement weather or severe accidents. Because of the temporary nature of these abnormal conditions, the average conditions used in the analysis are more representative of day-to-day operating conditions, which provide a better basis for analysis of transportation operations. As noted on p. IV.E.13 of the EIR, the descriptions of congestion on freeways serving the City are for conditions at the regional screenlines; the Central Skyway is not part of the regional screenline network.

Regarding the analysis of freeway capacity on US-101 and I-280, travel-time and speed runs conducted by CalTrans/13/ on US-101 southbound during the peak-hour and peak-period indicate that the volume and capacity relationships for US-101 (and I-280) shown in Table IV.E.3, p. IV.E.35 of the EIR, are valid. With regard to capacity assumptions for the North Bay and East Bay Corridors, the Golden Gate Bridge capacity data were supplied by the Bridge District, and are thus assumed to be valid; "Bay Bridge" volume data has been used to adjust the theoretical capacity for eastbound traffic to a lower value, as noted in Table IV.E.3.

Commenters are correct when they note that traffic congestion is on the increase on the regional highways (I-80, US-17, US-101 south of the County line, as well as along the Marin US-101 Corridor). Recent local newspaper articles have been cited by commenters describing increased auto use and decreased transit ridership, Commenters have noted that this appears to contradict the EIR transportation analysis.

These increases in traffic can not properly be attributed to C-3 growth in San Francisco. As shown in Figure C&R E.2, the absolute number of cars entering Downtown has not materially changed in twenty years./4,14/ Those commuter autos cited in the comments are not bound for San Francisco's Downtown, rather for suburban employment centers throughout the Bay Area. Growth in suburban employment is the causal factor for increased traffic congestion on the region's highways, not increased employment in San Francisco's Downtown. Traffic volume increases and congestion measurements show that bridges and freeways directly serving San Francisco have had the slowest percentage increases in the region./13/

To the extent that suburban employment growth continues, traffic congestion on the region's highways will increase. When residential and employment densities are low and scattered over great distances, sufficient critical mass is never achieved and ridership simply can not support transit service without monumental subsidies of the farebox./3/ In Santa Clara County, only 14% of transit operating revenues are derived from the farebox compared to 31% for Muni and 38% for BART. High operating subsidies for transit present a fundamental challenge to continued suburban office development.

Thus, rather than San Francisco's C-3 District growth subsuming all the regional highway capacity, as several commenters have suggested, it is more likely that the opposite will occur. Regional employment growth could preempt San Francisco's vehicular access and aggravate existing queues near San Francisco's on-ramps. This could be particularly true for travel to the Peninsula.

Several comments have suggested that the EIR traffic analysis is inadequate since the analysis did not consider freeway congestion throughout the region. Further, other comments have suggested that San Francisco would subsume all of the region's freeway capacity. The EIR analysis (p. IV.E.10 and Figure IV.E.2) measured the impacts of regional auto travel on the freeways and bridges serving the City at screenlines where the effect of travelers from the C-3 District could be expected to be most concentrated in relation to travel to the North Bay, East Bay and Peninsula corridors. At locations further removed from the screenlines, the concentration of C-3 travelers becomes less in proportion to the total traffic volumes. Thus, while I-80 in Richmond or US-101 in Marin County may be locations of commute congestion, analysis of the impacts of C-3 travelers at those locations would show less C-3 impact than would analysis at the screenlines used in the EIR. Traffic congestion on US-101 north of the I-280 interchange is discussed on p. IV.E.13 of the EIR in describing the transportation setting.

A comment was received suggesting that during commute hours regional bridge access be restricted to carpools. The comment also referred to a bridge in Washington D.C. where this is practiced.

As the regions' bridges and freeways provide access to many other places besides Downtown, it is not feasible to limit regional mobility in this fashion. The comment is referring to the George Mason Bridge in Washington D.C. The George Mason Bridge was constructed as a new HOV-only (diamond lane) facility in order to provide an incentive to ridesharing as opposed to the suggested treatment which would function as a disincentive by reducing available capacity to the traveling public. Downtown Washington D.C. has many more bridge and freeway approaches to it than does Downtown San Francisco. Analogies between the two cites are tenuous at best.

If this measure were pursued, commuters to the C-3 district would be least affected. Survey data indicates that C-3 employees and visitors have a higher vehicle occupancy than the non-C-3 travellers. For example, the average C-3 East Bay commuter vehicle on the Bay Bridge has a peak-period vehicle occupancy of 2.42 whereas the average for all peak-period Bay Bridge traffic is 1.26-1.84.

A comment was received suggesting that reverse flow lanes be studied on the Bay Bridge. CalTrans has studied reverse flow lanes on the Bay Bridge and approaches to the Bridge and found them to be infeasible because of ramp design and in part because of the increasing numbers of reverse commuters. (Len Neuman, Chief of Highway Operations, CalTrans, telephone convesations, April - May, 1984).

Comments were received that questioned differences between Table J.4 and p. J.22. The data in Table J.4 is correct (as is the data used in the transportation analysis) and the text on p. J.22, paragraph two should be changed to read as follows:

> "The travel demand process indicates a total of 5,100 vehicles originating in the C-3 District during the peak hour which represents about 68% of the vehicles using the on-ramps in the Downtown area. During the peak period, the travel demand process generates about 7,200 vehicles the C-3 District to the Peninsula which is about 52% of the vehicles on the Downtown ramps."

E.3.2 San Francisco Traffic

Numerous commenters have pointed out that the EIR did not cover or analyze traffic impacts in outlying residential neighborhoods, nor did it estimate the impact of traffic diversion. The EIR raises the issue of increased traffic on parallel routes as an informational point since it is beyond the levels of accuracy of the analysis to predict how individual motorists will choose routes sixteen years hence, particularly as multiple routes exist for intra-San Francisco travel that allow nearly an infinite choice of travel paths. It is beyond the scope of this, or possibly any other study, to predict how a single individual motorist would change his or her travel route between any two points within San Francisco as a result of increased traffic on major routes.

City staff have reviewed traffic count data that are available from the Department of Public Works Traffic Engineering Division. Comprehensive, historical data are not available to compare traffic increases as a function of Downtown growth for neighborhood streets. If such data were available, the most one would be able to say was that volumes increased, decreased, or remained constant as Downtown growth has occurred. Additional travel origin and destination data would be required for the information to have any other meaning. The only place where traffic volumes have been comprehensively monitored is near and within the City's center for the Downtown Cordon Counts. Analysis of the Cordon Count indicates that while there has been a near doubling of office square footage in Downtown traffic volumes have decreased 4%. While this does not directly answer commenters' questions related to traffic impacts in the neighborhoods, it can be inferred that this pattern is indicative of growth in Downtown-bound traffic using neighborhood streets.

Despite the high transit use by San Francisco residents, there is still a large proportion of cars entering Downtown from the Northwest and Southwest corridors. The authors concur with comments that conclude transit improvements are essential in order to mitigate this impact. The impact analysis (Section IV.E) has been provided to describe conditions if mitigation measures are not implemented. The Muni Metro turnaround and the Metro Extension would allow additional service to be provided over and above what has been assumed in the analysis. They have been proposed to mitigate these identified impacts.

Comments have been received that question the selection of intersections analyzed in the EIR. Some commenters expressed desires to see analysis of more intersections both inside and outside of Downtown, while other commenters questioned the appropriateness of the discussion of conditions at only two of the ten intersections.

As discussed on p. IV.E.14 of the EIR, the intersections were selected (in consultation with City staff) for their ability to "function as indicators of peak-hour traffic conditions" (emphasis added). The intersections were not chosen solely on the basis of worst-case conditions; rather, the intersections selected represent a range of conditions in Downtown, both inside and outside the C-3 District. Because of the range of conditions represented, comparison of the results of the intersection analysis among the years 1984, 1990, and 2000 reasonably illustrates probable future changes in street traffic conditions across the Downtown.

As noted above, the multiplicity of parallel travel routes available to persons leaving Downtown for other parts of the City limits the ability of the analysis to accurately forecast conditions on surface streets in non-Downtown portions of the City. Consequently, no intersection analysis was conducted for locations outside of Downtown.

With regard to the specific discussion of two intersections, the discussion was included for the purpose of illustrating how traffic operations could affect transit service to the Northwest and Northeast corridors of the City. The two intersections are the only intersections analyzed for which a direct comparison with transit service to a specific corridor could be drawn. The commenter was correct in noting that the discussion of single intersection traffic analysis must be carefully considered in the context of the EIR.

South of Market Gridlock. Comments were received providing personal anecdotal experience of "gridlock" occuring in the the South of Market area (SOMA). Without questioning the accuracy of those observations, the EIR (p. IV.E.38) shows substantial queueing of vehicles waiting to enter freeway on-ramps which are located in SOMA. Aside from the freeway-based queues, staff of the Department of Public Works Traffic Engineering Division believe (as do other traffic experts) that traffic operates well on the wide SOMA streets. Gridlock only occurs when motorists do not obey traffic regulations. Traffic enforcement can fully mitigate "gridlock", although enforcement can not fully mitigate traffic queueing on freeway approaches. Additional traffic enforcement will be proposed as a new mitigation measure in the Downtown Plan EIR. (See Section F.2.1)

Chinatown Traffic. A comment was received suggesting that Downtown growth could preclude development options in Chinatown because of gridlock impacts. As indicated above, gridlock is caused when motorists violate traffic regulations and block intersections.

Chinatown has been beset by traffic congestion since its inception/15/. The San Francisco Planning Code acknowledges this condition in Section 239 by the establishment of the Washington-Broadway Special Use District. Parking requirements have been essentially eliminated for most uses in the District. Development has occurred in Chinatown despite ongoing traffic congestion. Mitigation measures 20, 21, 29, 30, 32, 35, and 49 have been proposed in part to improve transportation access for residents, workers and visitors of Chinatown.

Port Access. A commenter indicated that Port of San Francisco would be functionally impacted by reduced truck and rail access, as a result of continued Downtown growth.

Over the last 50 years, the Port of San Francisco's situation has changed considerably, especially in the Northeastern Waterfront. The adjacent land uses have intensified; former industrial sites that once required water or rail access have been converted/or developed as housing, office, and recreational-tourist uses (e.g. Ghiradelli Square, the Cannery, Pier 39, Levi Plaza, Golden Gateway Center, Rincon Point, and South Beach). It is likely that this trend will continue irrespective of the implementation of the Downtown Plan and its implementing legislation.

Because of the urbanization of the Northeastern Waterfront and the changing mechanism of maritime cargo handling (i.e., containerization), the focus of the Port's maritime uses has been and will continue to be south of China Basin. The Port's truck and rail access in the Northeastern Waterfront has been preserved through improvements to the Embarcadero Roadway and retention of remaining spur trackage to the finger piers.

E.3.3 Highway Costs

A comment was received requesting cost information from CalTrans for highway improvements attributable to San Francisco's commute needs. CalTrans does not allocate costs of projects to particular land uses or locations outside of the county in which the project would be constructed. Notable highway projects cited by the 1984 State Transportation Improvement Program (as adopted by the California Transportation Commission June, 1984) that would serve San Francisco-bound Bay Area residents are:

- I-580 High Occupancy Vehicle (HOV) lanes, which would consist of a reversible HOV facility from the I-580/Route 24 interchange to the Bay Bridge, partially on a new alignment, partially elevated and bypassing the toll plaza. CalTrans is currently completing the design and environmental analysis. It is expected to cost $16.2 million (1984) over the next five years.

- I-80 Congestion Relief Projects to be constructed between the San Francisco-Oakland-Bay Bridge Toll Plaza and the Carquinez Bridge. CalTrans has proposed the following projects to be constructed over the next nine years at a total cost of $165 million:

  (a) HOV Lanes
    - eastbound from Toll Plaza area to just north of Ashby Avenue
    - westbound from Willow Avenue (Rodeo) to McBryde Avenue (Richmond)

  (b) reconstruction of I-80/I-180 interchange
  (c) modification to approximately 15 interchanges
  (d) construction of one new interchange at Atlas Road
  (e) addition of 11 auxiliary lane segments
  (f) addition of mixed flow lanes at 5 locations
  (g) two collector road segments
  (h) one park-and-ride lot, and bicycle paths, pedestrian paths, and 6 bus stops at selected locations
  (i) realignment of a section of I-80 near San Pablo Dam Road.

  CalTrans has been studying ways of alleviating traffic problems on I-80, one of the East Bay's major San Francisco commute corridors, for approximately three years. Environmental analysis is being completed on a proposal recommending a variety of improvements that can be accomplished within existing right-of-way, and in a cost effective and environmentally sensitive manner. The HOV lanes are subject to review and concurrence by the MTC in accordance with state law.

- Route 101 HOV Lanes, Marin County

  Upgrade Route 101 by:
  (a) constructing a northbound auxiliary lane between Mission Avenue, in San Rafael, and Miller Creek Road.
  (b) constructing contiguous HOV lane between N. San Pedro Road, in San Rafael, and just north of Miller Creek Road interchange.
  (c) HOV lane between Miller Creek and Route 37 (southbound)

These improvement comprise the Marin 101 HOV-Balanced Design Concept, and stem from an MTC-sponsored study. The HOV lanes have high regional priority. Environmental analysis has been completed by CalTrans and includes longer-range consideration of northbound auxiliary lanes northward from San Pedro Road, and a southbound HOV lane north of the Miller Creek Road interchange. There is still some concern over the extent and location of local access. Construction of (a)(b) are programmed to begin in Fiscal Year 1984-85, with the projects expected to cost 19 million dollars. The HOV lane (c) is programmed for construction and completion in Fiscal Year 1988-89, at a cost of seven million dollars.

o I-280 Transfer Concept Plan

Study and select a mix of transportation projects to improve transportation in the I-280/Embarcadero corridor. Projects to be analyzed include:

o removal of the Embarcadero Freeway
o reconstruction of the Embarcadero through a surface roadway
o new on-off ramps for the I-280 Freeway
o Muni Metro extension to the SP Depot
o Muni Embarcadero Line (E-line) streetcar route from Fort Mason to the SP Depot
o I-280/Embarcadero Freeway area street and ramp modifications
o intercept parking
o transportation system management improvements along the northeastern waterfront.

Two related projects were analyzed in separate alternatives analyses:
o extension of the Peninsula Commute Service (CalTrain) to the vincinity of the Transbay Transit Terminal.
o Transbay Transit Terminal Improvements.

This study is the result of approximately 90 million dollars in Interstate Highway Funds being made available for substitute projects because the I-280/Embarcadero Freeway connection was withdrawn from the Federal Interstate System. San Francisco, CalTrans, and MTC are jointly sponsoring and participating (through the Interstate 280 Policy Committee) in an EIR of the study area to determine the feasibility, priority, and environmental effects of the improvements listed above.

E.4. PARKING

A comment was received requesting verification of the number of parking saces that were built between 1981 and 1984. Although data for the period 1981 to 1984 are not yet available, City staff has reviewed the C-3 District parking situation for the period 1975 to 1982. The results of the review, as reported in a memorandum to the Planning Commission from the Director of Planning entitled C-3 Districts Parking Update (December 16, 1982), show that between 1975 and 1982, about 790 spaces were lost. However, buildings under construction in 1982 (and subsequently completed in the interim) would add about 1,850 new spaces. The report concluded that the C-3 District had therefore experienced a net gain of 1,055 parking spaces between 1975 and 1982 (adjusted for new construction). On the basis of the March 10, 1984 Cumulative List, the net balance of lost or gained spaces shows that about 4,000 existing spaces would be lost to development and that about 6,000 spaces would be gained, for a net addition of 2,000 spaces.

The commenter has questioned the consistency between the parking demand calculations and the travel demand data shown in Table J.4, Appendix J of the EIR. As noted in Table J.4, the data shown in the table are illustrative of an intermediate step in the travel demand forecasting process and do not represent the final results of the analysis. Additionally, the data in Table J.4 are for the p.m. peak period. Parking demand, as stated in the EIR, has been calculated on the basis of daily (24 hour) travel demand. The p.m. peak period data in Table J.4 cannot be extrapolated, in the manner used by the commenter, to produce the equivalent daily parking demand. The parking demand calculations are on file and available for review at the Department of City Planning, 450 McAllister Street, Room 501 by advance appointment.

A comment was received inquiring whether non-C-3 parking demands have been expressly considered in the parking analysis. There is no practical way to segregate or distinguish C-3 parkers from non-C-3 parkers in either the C-3 District or adjacent areas in Downtown. For that reason, parking supply has been treated as a resource for a larger area than simply the C-3 District.

E.4.1 Parking Policies

A number of comments have been received that address Master Plan parking policies that are discussed in the Downtown Plan and in its EIR. Several comments have used hyperbole to illustrate projected parking demand. Clearly 6,000 cars will not queue from San Leandro waiting for parking spaces to open up in or around Downtown San Francisco.

San Francisco has taken a more "European approach" to accommodating autos in the Downtown core areas./16/ By allowing economic factors to dictate parking and by constraining the number of spaces downtown (as a matter of policy), this approach has caused daily parking rates to rise. The core area parking costs in Downtown San Francisco are two and a half to three times the current rates in cities that have parking requirements in the core area, e.g. Dallas; Miami; Washington D.C.; Denver; Los Angeles; San Diego; Houston. As a consequence, San Francisco (relative to its size) has transit ridership far in excess of the listed cities. As a part of this approach, traffic congestion is tolerated in order to encourage transit use.

As discussed on p. IV.E.41 of the EIR, the deficit is projected in order to provide a worst case analysis. It is important to place the 6,000 parking space deficit in perspective. During the 1960's, auto demand was expected to require another 36,000 spaces in order to accommodate the demand for 1980./17/

The Downtown Plan illustrates the periphery of Downtown in Figure 16, p. 123, as that portion of Downtown outside the short-term parking belt. The Plan describes the general location of the potential intercept parking on p. 126 in Table 20. Specific locations and tentative designs of the facilities are discussed in Peripheral Parking Opportunities in the South of Market Area (Department of City Planning, 1982). As shown in that document, most of the parcels involved are either in parking use already or are held in trust by CalTrans. The fifth location (Broadway-Front) is owned by the Port of San Francisco and is currently used for surface parking.

The Downtown Plan "Moving About" chapter and its precursor documents (the Transportation Element) have had as their goals the express intent to limit parking in and around Downtown in order to maintain the equilibrium between roadway and parking capacities. On this point, there is virtual agreement throughout the entire transportation literature that by placing a functional ceiling on the amount of parking spaces in an area, the number of autos coming into the area will be likewise constrained. By constraining the number of parking spaces in Downtown, the effect has been and will continue to be to increase the value of the remaining spaces (as well as to encourage transit use). Thus market conditions will bid up the cost of parking spaces (particularly long-term spaces) in the core areas.

A comment was received questioning the impact of the parking deficit on the occasional auto commuter. Chiefly the impact would be felt along socio-economic lines. It is expected that commuters would park as close to their destinations as they felt they could afford in order to minimize walking, while attempting to minimize parking costs.

E.4.2 Neighborhood Parking Impacts

Comments have been received that request information about the effects of the parking deficit on neighborhood parking and what the impacts of expanded permit parking programs might be.

As noted on p. IV.E.41 of the EIR, ". . . excess parking demand would be expected to overflow into residential and commercial areas adjacent to the Downtown. . . . One impact of a spreading of demand into adjacent residential and commercial districts would be increased competition for on-street parking in neighborhoods, which could increase public sentiment for expansion of the residential permit parking program and more rigorous enforcement of parking regulations." Impacts that might result from expansion of the permit parking program would be more in the realm of inconvenience experienced by residents with multiple cars and by visitors than of impacts to the transportation system, as the permits would expedite parking enforcement.

E.4.3 Parking Impacts Outside San Francisco

Comments have been received regarding parking impacts (that the commenters attribute to San Francisco C-3 District growth) on College Avenue in Oakland and near other surrounding suburban BART stations. Analysis of these impacts is beyond the scope of the EIR. It would require data that is unavailable, namely the knowledge of which of many BART stations in the East Bay would be used by Downtown workers. Further, not all BART riders are traveling to San Francisco; some have destinations in the East Bay (e.g. Oakland, Berkeley, Walnut Creek). In the case of College Avenue in Oakland, on-street parking may have become more difficult. However, there is no data available that would attribute that to San Francisco growth as opposed to a resurgence in retailing because of an increase in the size of market for that shopping district.

Preferential parking programs near BART Stations have been instituted in Daly City, El Cerrito, Concord, and of course, San Francisco. BART has no jurisdiction over these programs; rather they are strictly within the purvue of the local jurisdictions. As the responsibility rests with each jurisdiction, the specifics of the mechanism also rest with each local jurisdiction. Generally a small fee ($10.00 to $15.00/annually) is charged to cover the administrative costs associated with governmental programs (as is permitted under Proposition 13).

The AC Transit District and BART are exploring better local transit feeder service to East Bay BART Stations. In the short range, AC Transit plans to convert some Transbay service in the off-peak periods to BART feeder lines. This could ameliorate some parking needs at or near BART Stations without impacting journey-to-work service to Downtown. As noted above, this program has recently been funded by BART.

E.5 PEDESTRIAN IMPACTS

Commenters have noted the difficulty of pedestrians crossing several intersections in San Francisco, namely Van Ness/Broadway and 19th Ave./Holloway. They have questioned whether these conditions would spread to other locations, especially Chinatown.

Both Van Ness and 19th Avenues are major thoroughfares serving intra-city and regional traffic. As such, every effort has been made to facilitate the flow of traffic on those streets. Traffic signals are timed to benefit Van Ness and 19th Avenues rather than their cross-streets. The width of Van Ness and 19th Avenues, in combination with the signal timing preferences, make pedestrian crossings difficult to complete in a single signal phase. Streets in Chinatown are so narrow that no change to pedestrian movement is anticipated.

E.6 MITIGATION

Comments have been received that the EIR has not included sufficient mitigation measures and should include additional measures such as a "Commute Alternatives Program" and a development fee charged on the basis of marginal cost to provide transit service to new projects. The EIR evaluated 52 mitigation measures which would, if fully implemented, more than accomplish the Downtown Plan goals for ridesharing and transit use. Additionally, the necessary degree of implementation of the mitigation measures was tested to define a minimum level of mitigation necessary.

Table C&R E.11 shows the projected conditions on transit systems if Mitigation Measures 2, 3, 5, 6, and 13 are in place, plus the addition of about 100 more BART cars discussed in measure 2a added to the EIR text in Section P.2.1. No significant additional highway capacity has been assumed. Measures 2, 3 and 13 would provide the transit capacity increases to the year 2000 assumed in the EIR. Measures 5 and 6 are major capital projects (Muni-Metro Turnaround, Muni-Metro extension to Fourth and Townsend, and measure 2a proposes purchase of about 100 more cars for the BART system to make all BART trains 10-cars long during peak periods; these three are measures that have not been assumed in the EIR analysis but are included in Table C&R E.11. (See also Section P.2.) The numbers of passengers shown in Table C&R E.11 assume additional shifts occur from auto use to transit and, therefore, accommodate the "excess demand" from the auto corridors that is shown in Table IV.E.4 of the EIR. That is, these mitigation measures would both accommodate the excess auto demand and allow transit to operate within the transit agencies' acceptable load factors, at better than transit Level of Service F.

In response to comments received, and in spite of the information in the previous paragraph, the following text is added to Chapter VI. Significant Environmental Effects which cannot be avoided if the Proposed Project is implemented, on page VI.1, paragraph 1 (new text is underlined):

> "While increased employment in the C-3 District would occur under all alternatives and would result in increased use of all transportation systems, mitigation measures are available which would reduce otherwise significant transportation effects. In particular, if measures 2, 2a, 3, 5, 6 and 13 were able to be implemented by the various agencies, transit load factors would all fall within the agencies' maximum acceptable levels and the "excess demand" on freeways and bridges shown in the impacts discussion could be accommodated on transit. (See also Table C&R E.11, p. C&R-E.66.) While these measures are included as policies in the Downtown Plan, not all could be implemented solely by the City and County of San Francisco. Therefore, for purposes of the California Environmental Quality Act, caution would dictate a finding that the Plan (and other Alternative scenarios for Downtown controls) could potentially have a significant effect on Regional and/or City transportation systems."

Regarding the inclusion of a "Commute Alternatives" program as mitigation, the City already requires major institutions and all developers of major projects to retain a transportation broker to encourage ridesharing and flex-time. Measure 35 reiterates the City's commitment to "Commute Alternatives" programs through the requirement of Transportation Brokers to administer the programs. The Department of City Planning, (under the sponsorship of UMTA and MTC) has undertaken a demonstration program for joint public-private participation in meeting transportation needs. The program will result in voluntary participation by building owners/management in buildings not otherwise required by the City Planning Commission to do so. A group of buildings will jointly develop a transportation management and commute alternative program similar to those required for new construction or change of land use. This program will be formalized through the preparation of memoranda of understanding between the City and individual buildings.

Flex-time. Comments have been received suggesting that flex-time or staggered work hours be implemented for all Downtown firms. The concept of staggered work hours or flex-time has been around since the mid-1920s. While its flexibility makes it enticing, it also carries with it the possibility of some fundamental problems of economic and/or social dislocation. To a large extent, considerable voluntary staggering of work hours has occurred. It is not within the City's jurisdiction to require that all employers adopt flex-time or other similar programs. While flex-time or staggered work hours is not a panacea, it does provide part of an overall solution to journey-to-work travel demand/17/. More experience with this kind of approach will indicate how important a component it is.

TABLE C&R E.11: PROJECTED P.M. PEAK-PERIOD TRANSIT SYSTEM CAPACITY AND RIDERSHIP FOLLOWING IMPLEMENTATION OF MITIGATION MEASURES 2, 3, 5, 6 AND 13 FOR THE YEAR 2000

Transit Carrier	Screenline	Passengers(a)	Seats	Load Factor(b)	Maximum Acceptable Load Factor(c)
MUNI	Northeast (d)	15,800	16,400	0.96	1.25
MUNI	Northwest (d)	15,300	14,600	1.05	1.25
MUNI	Southwest (d)	29,100	27,300	1.04	1.40
MUNI	Southeast (d)	12,400	17,700	0.68	1.40
BART-Transbay	Transbay Tube	44,600	38,900	1.14	1.5
BART-Daly City	Civic Center	14,800	18,900	0.78	1.5
AC Transit	Bay Bridge	17,200	14,700	1.17	1.25
GGT bus	Golden Gate Bridge	12,800	15,000	0.86	1.00
GGT Ferry	Ferry Building	1,800	3,200	0.56	1.00
Tiburon Ferry	" "	500	500	1.00	1.00
SamTrans	County Line	4,800	3,900	1.23	1.25
SP CalTrain	Fourth St. Station	7,500	8,100	0.93	1.00

(a) Passengers includes ridership from both C-3 Districts and non-C-3 areas.

(b) Load factor is the ratio betwen number of passengers and the number of seats on the vehicle. The maximum acceptable load factor is defined by each transit operator in its Five Year Plan.

(c) Muni maximum acceptable load factor ratios are: 1.65 for LRV and 1.25 for bus.

(d) Muni ridership cannot be summed over the corridors to give total system demand. Such a sum would incorrectly double count.

Timing of Mitigation Measures. Commenters have noted that the timing of transportation mitigation measures appears to be unrelated to development activity. In some respects, this is true. As discussed below in Section P.2.1, the system of allocating transportation resources in this country has been (for at least the last twenty years) oriented towards meeting existing identified demands.

Nineteenth and early twentieth century "streetcar suburbs" provide an early example of transit access preceeding development activity. Generally, these suburbs were developed by providing new, inexpensive streetcar service as an inducement to buy land and housing. Oftentimes, the land development company also owned the streetcar service (and subsidized operations from land sales).

The "streetcar suburbs" exemplify two major points regarding transportation systems. The development patterns of the "streetcar suburbs" provide an excellent example of induced growth through the provision of a transportation system. The suburbs clearly would not have developed (at that time) without the streetcars, since the streetcars provided the means for residents of the suburbs to travel greater distances in shorter times than they could under the prevailing means of transportation (foot and horse) The second major point of the example is that privately financed carriers (within the confines of the State Public Utilities Commission regulation) can expand at will to the extent that financing is available and can pursue diverse operating strategies for provision of service with regard only for developing a profit.

Because of the unprofitability of providing transit service following World War II, most of the major transit systems in the United States have become publicly-owned and operated. Because of the complications encountered by public agencies in operating transit systems and the continued competition from the automobile in the 1960's, Federal funding for transit was developed. Consistent with funding mechanisms already in place to finance highway transportation projects, matching funds (in the case of transit, farebox recovery ratios) were required for federal subsidies. Thus, as long as an operator has to maintain a set farebox recovery ratio, service expansion will only occur after a market has developed that will support the expansion. Additionally, because public agencies now operate transit services, all manner of political ramifications regarding provision of service to the constituency enter into the picture, further complicating the ability of an agency to expand in anticipation of a future demand.

Therefore, unless far-reaching changes in the existing funding mechanisms are made, little can be done to bring about more timely implementation of the mitigation measures proposed in the EIR. One way to implement some of the measures would be to assess individual projects for specific improvements. However, because the City has direct control over a very limited portion of the mitigation measures, its ability to impose far-reaching conditions on individual projects is limited. The Transit Development Impact Fee is one major measure that the City is taking to help improve transit services within its control. As noted above in Section E.2.7.2, the City has already implemented the Transit Impact Development Fees (TDIF) Ordinance. The TDIF is essentially similar to the suggested mitigation regarding fees to cover marginal cost of transit service and thus the suggested mitigation has not been included. To the extent that the City endorses and supports measures not directly under its control, it adds to the probability of such measures being implemented.

One commenter has requested that a determination of the cost required to maintain 1981 conditions on the transportation network be made. Additionally, the comment suggests that auto drivers be subsidized to use transit. The Downtown Plan EIR presents transportation mitigation on pp. V.E.1-30. Those mitigation measures include suggestions that would add transit capacity and encourage ridesharing to reduce the transportation impacts (including parking impacts) to insignificant levels.

To suggest that some equivalence exists between the cost of providing transportation improvements and the perceived costs of an individual's commute is highly misleading. The range of individual perception is sufficient to bias this approach. Commute "costs" may be seen as no more than bridge tolls and 15 minutes of delay at a toll plaza. Similarly, the person willing to drive alone through intense congeston may not be willing to ride in a packed BART car for any amount of subsidy.

Further, the goals of the Downtown Plan transportation section, which could be met through implementation of all of the transportation mitigation measures in the Downtown Plan EIR, would essentially maintain commute auto traffic at present (1984) levels and thus, the long-term parking demand would not increase.

Some comments were received suggesting that mitigation measures are meaningless because they are not implementable by the City Planning Commission. Comments also have been received indicating that the mitigation measures are optimistic. Measures that would mitigate transportation impacts of employment growth in Downtown San Francisco could be implemented by a variety of agencies, some within the City and County government and some outside the City government. The Mitigation Measures are slightly less certain to occur than the portions of the Five-Year Plans that were assumed as part of the Impacts analysis. Therefore, the impacts analysis did not include these measures, in spite of the fact that the measures are included as policies or implementing actions in the Plan itself. The fact that the measures can not be implemented by the Commission and/or by the Department of City Planning does not diminish the ability of the measure to reduce impacts that could occur without the measures.

The State CEQA Guidelines require that the mitigation discussion include those measures that could minimize potentially significant impacts (Cal. Admin. Code, Title 14, section 15126(c)). The Guidelines do not limit discussion of mitigation measures to those measures that could be implemented by the initial decision-maker. The EIR discussion explains which agency or agencies could implement each measure.

Most of the measures discussed in the EIR are included in the long range plans of the implementing agencies; many are expected to be funded (see discussion in section E.2.1.2 above. However, if none were to be implemented, impacts would be as described in the impacts section of the EIR (IV.E.20-45).

Mitigation Measures that are Feasibility Studies. A commenter is correct in noting that Mitigation Measures 7, 8, 9, 18, 20, 22, 36, 46, 50, 51, and 52 do not in and of themselves mitigate impacts. The above-mentioned Measures are proposed feasibility studies which would be used to determine physical solutions to transportation needs. These measures are proposed as feasibility studies because the concepts are not well enough developed to actually recommend the physical solutions.

The Inter-relationship and Impacts of Mitigation Measures. One commenter has raised the point that a number of Mitigation Measures (e.g. 19, 24, 27, 28, 41, 45, 48, and 49) will mitigate some impacts but could at the same time exacerbate other impacts. The commenter is correct in the appraisal that physical improvements always require necessary trade-offs between competing interests and that in order to improve the pedestrian and transit access to and through Downtown it may be necessary to sacrifice some convenience to motorists.

The commenter is aware of the laborious staff work that is involved in the implementation of any single proposal. There will be ample opportunity to work out specific detailed solutions regarding the aforementioned measures. The inclusion of the aforementioned measures in the Downtown Plan and its companion EIR does not grant blanket approval for any projects. As the mitigation measures are described in a rather conceptual framework, further evaluation can not be made at this time. As discussed above, specific proposals will undergo a rigorous appraisal by all concerned City staff under the aegis of the Transportation Policy Group (TPG) and the Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT).

E.6.1 Impact of Citywide Annual Limit on Office Space

Commenters have requested that the Annual Growth Rate Limit Mitigation Measures discussed on pp. V.A.1-5, V.C.1-2 and V.D.1-3 of the EIR be expanded to consider the transportation impacts they would have if they were imposed. (See also additional discussion of Annual Limits in Section P.1.)

Transportation impacts of the Annual Limits mitigation measures were discussed on pages V.E.2-3 of the EIR. As explained there, based on analysis in other sections of the Mitigation Chapter, person trip-ends would decrease compared to those estimated under the Downtown Plan by about 3 - 8% (see Table V.E.1). The basic effect of an annual limit on office space construction is to delay space and, to a lesser extent, employment growth in the C-3 District. Comparing these results of the person trip-end calculations with the analyses of the Plan and Alternatives, it can be seen that the 0.5 million square feet per year limit would produce a number of person trip-ends in the year 2000 similar to those projected for the year 1990 under the Downtown Plan and the five Alternatives (209,000 in the year 2000 under a 0.5 million limit versus 199,200 in the year 1990 under the alternative scenarios). Therefore, the analysis of impacts in 1990 shown in Sections IV.E and VII.E of the EIR provides a reasonable example of the effects of a 0.5 million limit. The 1.0 million square feet per year limit would produce trip ends in the year 2000 that would occur in the mid- to late 1990's under the Plan or the Alternatives.

The slower employment growth produced by annual limits would not be likely to result in a less crowded transit situation because, as described in section E.6 above, transit operators base their plans to expand service on estimates of growth in demand for that service. Thus, the mitigation measure would, to the extent that it delayed transit demand, shift planned expansions to a later time period, much of which would fall beyond the analysis period of this EIR. The effect might be to allow transit agencies more "breathing room" due to slower growth. However, it is important to note that funding is expected to be available for the current 5-Year Plans which alone would allow systems to accomodate nearly all of the forecast growth, and that the EIR analysis shows that demand can be accomodated under the Plan with only a few of the many transportation mitigation measures included in the Plan (see section E.6, and Table C&R #.11 above). An annual limit on office construction could postpone for as much as a decade the changes in transit strategies that may be needed after the year 2000 to accomodate C-3 District employees if growth were to continue as forecast under the Plan or Alternatives.

It would not be particularly informative to attempt more than the general analysis provided in Section V.E. of the EIR and above because much transportation analysis shows a statistical variation of ±10% or more which is larger than the calculated reduction in person trip-ends, and because more precision would not be able to take into account many of the subtle changes in employment growth that might occur under annual limits. For example, the EIR explains in section V.C. that less office space does not correlate directly with fewer employees, since densities would likely increase. In addition, the types of businesses that would locate in the C-3 District would probably be different under the most stringent limits. Residence patterns could also change, which changes transportation factors. It cannot be assumed that 8% fewer trip-ends would reduce use of all transportation modes by an equivalent percentage--it is not likely that 8% fewer C-3 District commuters would drive to work under this scenario. An annual growth limit could change the economic profile of the persons employed in the C-3, which could also change both residence patterns and transportation parameters. Finally, because the limit would apply city-wide rather than to only the C-3 District, it is difficult, if not impossible, to forecast regional implications which could affect the regional transportation network.

In summary, annual limits on office space would delay the effects of employment growth in the C-3 District and in the City, but this delay would not necessarily produce a directly related identical delay in effects on the transportation systems serving the District.

E.6.2 Transit

E.6.2.1 Muni

Comments have been received indicating that the EIR should discuss how the Municipal Railway will be reducing passenger crowding, pointing to Geary Street lines as extreme examples of this crowding.

There is no disagreement about the fact that the Geary corridor is the busiest in the Muni system. Ridership statistics for the Geary lines show that the Geary corridor carries 70,000 passengers daily on its short seven-mile line. The Downtown Plan and the EIR (Mitigation Measure 7, pp. V.E.7-8) call for, as a minimum, a feasibility study examining the potential for light rail service in the Geary corridor. The Geary corridor more than exceeds minimum criteria needed to economically support rail service. The Municipal Railway will be undertaking this corridor appraisal over the next two years. The corridor study will compare the economics of supplying future service using different equipment types (e.g., diesel bus, trolley coach, light rail, and heavy rail).

The San Francisco Municipal Railway Capital Improvement Program 1984-1989 provides a rank-ordered shopping list of future capital improvements to the system, as well as a high-low revenue estimate for the same period. Depending upon future annual appropriations and authorizations made by the State Legislature and Congress, some projects may have their schedules extended or be deferred indefinitely. Major capital projects proposed to be completed by 1989 are dependent upon discretionary federal funds. The projects most likely to be affected by revenue shortfalls, (if they occur) are:

- J-Line Connection
- Market Street Streetcar
- Woods Division Expansion
- Presidio Division Redevelopment
- Trolley Coach purchase
- Metro Extension to Fourth and Townsend Streets
- E-Embarcadero Streetcar

Proposed federal New Rail Start guidelines appear to favor projects that serve developed transit markets with demonstrated transit demand. Proposed Muni projects could compete well against other proposals based on these criteria. The BART extension to San Francisco Airport appears to meet all of the proposed federal criteria.

With regard to discretionary funds for Muni, increases in capital and or operational revenue, which would replace these discretionary funds, could come in part from the farebox. Peak-period transit ridership demand is the least elastic of any time of the day. A differential peak-period/off-peak fare structure could either raise farebox revenues slightly or encourage greater Fast-Pass sales which would improve running time as fare-collection (boarding) time would be reduced . In fiscal year 1984-85, the City will expend over $100 million of property tax revenues subsidizing the Muni fare box. The 1984-85 Muni subsidy from the City's General Fund is a tremendous amount of money that in comparative terms, could purchase outright in the same year the Muni Metro turnaround, the Muni Metro Extension to the Fourth and Townsend Streets, the E-line, and a portion of the F-line.

The Muni Metro Turnaround and the Muni Metro Extension to Fourth and Townsend Streets are essential mitigation measures. These projects could, as described in Section V.E. of the EIR, be completed by 1990.

A commenter requested that the Charter of the City and County be evaluated in order to determine whether labor productivity could be increased if the Charter were revised. The comment implies that transit operator's work day be redefined to allow for split shifts or less than a full eight hour day. This evaluation would not in and of itself mitigate any impacts. However if the Charter were to be revised, subsequent to approval by the electorate, it could reduce some labor costs associated with peak period transit demand if union agreement were achieved. The adoption of this measure is beyond the ability of the legislative body to enact.

E.6.2.2 Jitney Service

Comments have been received proposing that a jitney feasibility study be conducted and suggesting that new jitney routes be explored. City staff have initiated two taxi feasibility studies over the last six years./19/ However, fundamental organizational constraints have precluded any new Downtown routes from being instituted. The constraints include the limitations established by the Charter of the City and County of San Francisco on taxi and jitney licensing, as well the independent nature of the jitney operators associations. As considerable staff time has been devoted to these studies without yielding any results, this measure does not appear promising. For this reason, proposals regarding jitney service did not appear in the Downtown Plan or its EIR.

E.6.2.3 On-Street Transit Boarding

Comments have been received indicating that there was some ambiguity to the Downtown Plan's policies on Transit Terminals and implementing actions on curbside boarding of Golden Gate and SamTrans service. The proposed Revisions to the Downtown Plan, dated June, 1984, provide additional clarification. The pertinent language now reads as follows:

TRANSIT TERMINAL POLICY

> "Provide for commuter bus loading, if possible, at off-street terminals. Where this is not possible provide special curbside loading areas at non-congested locations.
>
> "Off-street terminals are preferable to curbside locations because they provide adequate back-up space for passenger waiting, ticketing and loading and reduce the amount of pedestrian and vehicular congestion on the sidewalks and streets. On the other hand, loading and unloading points should be conveniently distributed throughout downtown to make transit attractive to intercity commuters. As opportunities present themselves off-street terminals should be developed. Until adequate terminals can be provided, commuter buses should load and unload at designated and easily identifiable curbside locations such as Market Street. They should be chosen to minimize conflict with pedestrian flows.

IMPLEMENTING ACTIONS

"o Provide curbside on-street boarding of Golden Gate and SamTrans service.

"The Golden Gate and SamTrans routes in downtown should be designed to meet the needs of their passengers. Curbside off-street boarding on downtown streets should be carefully evaluated and alternatives selected that enhance the existing and proposed transit preferential streets and minimize conflict with MUNI bus operation."

Only one public transit operator (AC Transit) using the Transbay Transit Terminal provides non-stop service from outside the City directly into the

Terminal. Golden Gate Transit buses have intermediate stops between the toll plaza and the Terminal. SamTrans buses similarly also have intermediate stops between the freeway and the Terminal. Thus the use of Market Street would not materially change either carriers' overall travel time to Downtown San Francisco. The use of Market Street should not affect the use of the Transbay Transit Terminal as a terminus of rerouted lines. Therefore, this policy and mitigation should have no effect on intersystem transfers. As these proposed Plan revisions were anticipated and discussed on pp.V.E.13-15, no EIR text changes are suggested.

A comment from CalTrans noted that the DEIR incorrectly designates the Transbay Transit Terminal as the "Transbay Terminal." The last paragraph on p. V.E.13 should be revised as follows:

> "The Plan proposes that commute bus operations in the City be consolidated within Transbay Transit Terminal (currently used by Guiton, Greyhound, AC Transit and Golden Gate Transit, although SamTrans and Muni load from surface stops adjacent to the Terminal)."

The second paragraph on p. IV.H.12 should be revised as follows:

> "From the case study location, the view to the west down Howard Street is framed by the freeway overpass leading to the Transbay Transit Terminal."

E.6.2.4 Transit Preferential Streets

Commenters have noted the Downtown Plan and EIR Mitigation Measure 19 recommend that Transit Preferential Street improvements be implemented in order to facilitate transit travel in Downtown.

One comment indicated that Market Street transit treatments discussed in this Mitigation Measure were not being pursued. Several major improvements are currently underway in either construction or design phases. The Municipal Railway is reconstructing overhead trolley wiring on Market between Castro and Steuart Streets. Construction began in June, 1983 and is expected to be complete September, 1985. Additional roadway work including the resurfacing of Market Street (between Fremont and Van Ness) and the reconstruction of boarding platforms and trackage is expected to be completed in 1987. Upon completion of the overhead wiring and roadway work, Muni will be able to run motor coaches and trollys in the center lanes along with streetcar service. This feature should improve Muni running time as fewer transit vehicles will be bunching at stops. These improvements will also facilitate addition of stops on Market Street for suburban carriers (Samtrans and Golden Gate Transit) as described on p. V.E.16 of the EIR. The design work necessary for the construction of a rail connection with the E-Embarcadero waterfront rail line near the eastern terminus of Market Street is expected to proceed in 1985. Additional trackage may be installed on Market between Church and Duboce.

Implementation of other Transit Preferential Street improvements is contingent upon a number of factors including legislative approval by the Board of Supervisors, strong public support and broad political consensus.

One commenter requested that the benefits of transit lanes on Second Street be discussed. The EIR pp. V.E.15-16 identified Second Street between Market and Townsend Streets as a street suitable for installation of transit lanes, i.e., a Transit/Commercial Mall.

This project was recommended by the Transbay Terminal Study, the Center City Circulation Study, and Northeastern Waterfront Plan. An exclusive transit right-of-way would be installed on Second Street between Townsend and Market Streets. It would serve Peninsula (SamTrans) commuter buses operating between I-280 and the Transbay Terminal and would serve shuttle transit (Muni No. 42 line) operating between peripheral parking lots and the Downtown core by utilizing a reversible center transit lane. The project could be constructed for less than $10,000 using a combination of Federal Aid Urban (FAU) revenues and local gas tax revenues. This project could improve the running time of those buses that would use the exclusive transit lane.

E.6.3 Traffic

Several additional comments have been received regarding Mitigation Measure 27 which would use an Auto Control District to monitor the growth of automobile travel in the Downtown core. The Auto Control District has been conceptually redefined from an outright banning of private vehicles in the core (as stated in the Transportation Element of the Master Plan) to a reduction in the number of private vehicles entering the core (as stated in the Downtown Plan). Mitigation Measure 27 would not implement an Auto Control District; rather, the measure would institute a monitoring program of traffic growth in the area originally defined as the Auto Control District.

Commenters have suggested that in order to reduce the attractiveness of intra-San Francisco auto trips, that all peak-period towaway zones should be removed. Most peak-period towaway zones are within the Greater Downtown. Therefore elimination of towaway zones could result in more auto trips Downtown because of the new increment of on-street parking that conceivably would replace the towaway zones. The transportation literature strongly suggests that the lack of parking availability is one of the most critical factors in encouraging transit use.

E.6.3.1 Embarcadero Freeway Removal

A comment was received that notes that the removal of the Embarcadero Freeway is primarily an urban design or land use mitigation measure rather than a transportation measure.

Removal of the Embarcadero Freeway would achieve land use and urban design goals by removing a physical barrier dividing the City from its waterfront. The removal would not directly mitigate any transportation impacts.

The removal of the Embarcadero Freeway is however, treated as a transportation measure because it is a transportation facility. The impacts of its removal (as analyzed in the I-280 Transfer Concept Program DEIR to be published later in 1984) have both urban design/land use implications as well as impacts on the design and placement of other transportation facilities, i.e., streets, remaining or new freeway ramps, transit alignments, transit right-of-way characteristics, subway station locations, surface transit stop locations; and the disposition of on- and off-street parking.

E.6.3.2 Ridesharing Incentives

Comments have been received stressing that it is unrealistic to assume larger increases in ridesharing without preferential parking in City garages and HOV treatments on City streets.

Many City-owned garages have been constructed and fees have been set expressly for the purpose of providing short-term parking for nearby land uses as part of overall transportation policies which encourage transit use by peak-period commuters but encourage business and downtown shopping by providing needed short-term parking for business visitors and shoppers who are more likely to travel during non-peak periods and who would find transit a less acceptable alternative. Use of these short-term parking spaces by long-term parkers, even long-term parkers who were ridesharing, would reduce the effectiveness of these policies.

In addition, although the measures suggested by the comment would most likely facilitate increases in ridesharing, the suggested measures are not mandatory to the continued trend of increased ridesharing use. Increased regional freeway traffic congestion on routes with existing HOV facilities will naturally encourage greater levels of ridesharing in order to take advantage of reduced travel time and costs afforded to diamond lane users. Similarly, on facilities without HOV treatments, reduced travel costs provide an incentive to shift to ridesharing. Additionally, as ridesharing arrangements would usually include sharing of costs, including parking, expenses are reduced on an individual basis.

E.6.4 Parking

Several comments were received regarding Mitigation Measure 47 (In Lieu Off-Site Parking). One commenter has apparently misunderstood the parking requirements placed on C-3 District uses (which are not proposed to change). Measure 47 is not expected to encourage parking or result in more traffic; rather it would redirect the location of parking into areas where street traffic impacts could be minimized.

One comment suggested that Mitigation Measure 47 may be unconstitutional pursuant to Proposition 13. Mitigation Measure 47 would only affect uses which have an off-street parking requirement. Only hotel and residential uses have parking requirements in the C-3 District. The EIR suggested that Section 161 of the City Planning Code be modified to fully provide a mechanism to allow cash contributions to be equated to parking spaces. The Proposed Amendments to the City Planning Code (June, 1984) include such text modifications, providing an administrative procedure for public agencies to accept cash contributions in order to finance the construction of public parking facilities. The proposed legislation would not require developers to provide cash contributions for in-lieu parking; rather, the proposed language provides an optional means for satisfying the code parking requirements. The existing and proposed language reads as follows:

> "Sec. 161. EXEMPTIONS FROM OFF-STREET PARKING AND LOADING REQUIREMENTS.
>
> The following exemptions shall apply as to the schedules of required off-street parking and loading spaces set forth in Sections 151 and

> 152 of this Code. These provisions, as exemptions, shall be narrowly construed. . . .
>
> "(h) In instances in which all public agencies involved have certified by resolution that the requirements of this code (i) will be satisfied in whole or in part by public off-street parking facilities constructed or authorized to be constructed to a special assessment district or upon any other basis or (ii) can be satisfied by a cash contribution in an amount deemed sufficient to provide for the future construction of the required number of parking stalls, off-street parking required for individual buildings and uses may be correspondingly reduced if the total off-street parking supply in the area will nevertheless meet the requirements of this Code for all buildings and uses in the area."

Commenters have suggested that a daily parking tax could be instituted. The revenues generated by this source could be dedicated to transit (Muni). The approximate number of off-street parking spaces within the C-3 District is 38,800. At a daily rate of 50 cents per space (the lowest recommended rate) this measure could generate 7 million dollars annually. At a daily rate of one dollar per space (the highest recommended rate) this measure could generate approximately 14 million dollars annually. This action could only be implemented by a two-thirds majority vote by the citizens of San Francisco, pursuant to requirements of Proposition 13. The adoption of this measure is beyond the ability of the legislative body to enact.

E.6.4.1 Vanpool Parking

A comment was received suggesting that City staff work with CalTrans in studying the possibility of using their parking lots as reserved low cost vanpool parking lots. CalTrans-owned parking in and around Downtown San Francisco has provided several hundred free vanpool parking spaces since the late 1970's. Since this cooperative vanpool parking has been an ongoing activity, it was not included as a mitigation measure.

Comments were made that the San Francisco Planning and Building Codes did not require sufficient vertical clearances in garages to accommodate vanpool vehicles. The Proposed Amendments to the City Planning Code, dated June, 1984, include vertical clearance standards to remedy this situation. The proposed language in Section 154(a)3 reads as follows:

> "3. Ground floor ingress and egress to any off-street parking facilities provided for a structure or use, and all areas of such facilities to be designated as preferential carpool or vanpool parking and their associated driveways, aisles, and maneuvering areas shall maintain a minimum vertical clearance of 7 feet."

The Planning Code establishes minimum sizing standards for new or enlarged or remodeled facilities, so modification of the Building Code is not necessary.

E.6.5 Bicycle Access to Transit

One commenter requested that the impact of bikes within congested pedestrian areas such as the Transbay Transit Terminal be examined in relation to the language of Mitigation measure 37 which would increase access to regional transit by bicyclists. The following has been added to the second sentence of measure 37, p.V.E.24:

> "systems such as BART, the ferry systems, the CalTrans Bay Bridge bicycle shuttle, and trains. Prior to certain commute bus systems being equipped to carry bicycles, analysis of the effects and determination of the appropriate locations for boarding and drop-off of bicyclists should be conducted so as to minimize the effects of bicycles inside transit terminals."

CalTrans has a bicycle locker program at CalTrain stations and at park -and-ride lots around the Bay Area. These lockers provide additional non-motorized access to transit service regionally. BART has approximately 650 bicycle lockers at its suburban stations and allows bicycles with permits on off-peak period trains.

E.6.6 Pedestrian Bridges

A comment was received containing information about additional pedestrian bridges that would be needed in the Downtown. The following changes should be made to the EIR:

p.V.E.14 Paragraph One, fifth line should be changed to read " . . . it would necessitate construction of bridges over Mission and Fremont Streets (see Measure 43, below)."

P.V.E.26 Mitigation Measure 43 should include:
"- Over Fremont Street between Mission and Howard;"

p.V.E.27 Paragraph One should include:

> "The construction of the bridges over Mission (near First Street) and Fremont Streets are considered suitable as substitute projects in the I-280 Transfer Concept Program. These projects have completed their environmental review."

E.7 SIGNIFICANT EFFECTS

A few commenters indicated disagreement with Chapter VI. Significant Environmental Effects Which Cannot Be Avoided If the Proposed Project is Implemented. It is up to the City Planning Commission to indicate in their certification and decision-making actions what they find to be significant impacts of the project that is presented for action. The Commissioners use the EIR in making their determinations.

It is important to note the title of this Chapter in the EIR, and its meaning according to State CEQA Guidelines. The Chapter is intended to describe impacts which cannot be avoided if the proposed project were to be approved. Section 15126(b) of the State Guidelines explains that this portion of the EIR should"describe significant impacts, including those which can be mitigated but not reduced to a level of insignificance." That is, if there are mitigation measures which would reduce impacts to a level of insignificance, then they are no longer significant effects which must be noted in this project. The proposed Downtown Plan includes many measures which would, if carried out, completely mitigate transportation effects of employment growth forecast to occur under the Plan (see pp. V.E.4-28 of the EIR and Response section E.6). As the Impacts analysis shows, growth under the Plan could be accomodated on transit systems; most systems, with the exception of BART transbay and Muni service to the Southeast, would operate at acceptable levels of service of D or better (p. IV.E.28), without implementation of mitigation measures. Chapter VI. would not be inadequate or complete without the finding suggested in the comments; however, as noted above, the final determination will be made by the City Planning Commission.

The text of Chapter VI has been revised to suggest that the Commission could make a finding that the proposed Project, the Downtown Plan, could have a significant effect on regional or City transportation systems. See Section E.6, page C&R - E.65 for the exact wording of this text change.

E.8 STAFF INITIATED TEXT CHANGES

Staff review of the DEIR discovered that some minor errors, typos and clarifications required revisions to the text. The EIR text should be revised to read as follows:

p.V.E.1, paragraph three:

> The Downtown Plan contains a number of implementing actions designed to carry out the policies.

p.V.E.6, seventh line from the bottom of the last paragraph:

> With the current fleet, actual passenger capacity on the Muni Metro would be increased from approximately 8,000 riders per hour to approximately 9,000 riders per hour. Additional fleet would be required in order to further increase actual passenger capacity.

p.V.E.11, paragraph three:

> insert 13c preceeding discussion.

, paragraph four:

> change to 13d.

p.V.E.12, paragraph one:

> change to 13e.

, paragraph two:

> change to 13f.

, paragraph three:

> change to 13g.

p.V.E.30, paragraph one last line:

> ". . . where 70% of workers actually travel in the peak period."

NOTES - Section E. Transportation

/1/ The California Legislature established the Bay Area Transportation Study Commission in 1963. The commission included representatives from: all nine counties, one city from each of the nine counties, BCDC, Port of Oakland, San Francisco Public Utilities Commission, federal representatives from both HUD and what is now the Department of Transportation, two members from the California Senate and two members from the California Assembly, a representative from the State Business and Transportation Agency, a representative from the State Office of Planning, and single representatives from ABAG, AC Transit, GG Bridge District, and BART. In addition there were five commissioners-at-large and one commissioner representing the Citizen's Advisory Committee.

/2/ Urban Transportation Planning, Roger L. Creighton (University of Illinois Press, 1970) pp. 148-192. These chapters discuss transportation data collection methodology and the employment of land use forecasts in the development of travel simulation models.

/3/ Public Transportation and Land Use Policy, Boris S. Pushkarev and Jeffrey M. Zupan (Indiana University Press 1977). The Regional Plan Association conducted this study under the aegis of a U.S. Department of Transportation research grant.

/4/ 1983 San Francisco Cordon Count, JHK and Associates, July, 1983. This report, prepared for the San Francisco Department of Public Works, measured traffic entering and leaving the Greater Downtown at 103 measurement stations in 1983.

/5/ I-280 Transfer Concept Program Working Paper 1.5.6. Travel Demand Forecasting/Analysis, prepared by D.K.S. and Associates (1983). This unpublished study was prepared for the State of California Department of Transportation (CalTrans), the Metropolitan Transportation Commission (MTC), and the City and County of San Francisco. The study applied the regional ABAG/MTC data and projections for San Francisco. It was also assumed as a part of a sensitivity analysis that a partial buildout, equaling 25% of the Mission Bay's new town in-town 1983 proposal, had been completed. The Mission Bay program has been scaled back substantially since then.

/6/ Interview with Stan Burford, KGO-AM's radio traffic reporter, July 25, 1984.

/7/ Urban Transportation: The Federal Role, written by George M. Smerk, discusses the evolution of transportation modes and their effects on urbanization patterns. This book was published in 1965 by Indiana University Press.

/8/ Urban Rail in America: An Explanation of Criteria for Fixed Guideway Transit, Boris S. Pushkarev and Jeffrey M. Zupan (Indiana University Press 1982)

/9/ In the Downtown Plan EIR, analysis of C-3 District employment growth was done within the context of future citywide and regional economic activity. Potential employment growth outside the C-3 District was considered for both areas adjacent to the C-3 District and the rest of the City. In each case, past development and employment trends were reviewed and consideration was given to how changes in the distribution of economic activity in the City would affect future growth. This estimate of development potential is based on consideration of historic development patterns in the City, the existing distribution of land uses, proposed and potential projects including Mission Bay, and economic trends affecting business location decisions. Specific forecasts of the amount (sq. ft.) of future development in such areas as the Van Ness Corridor, Redevelopment Areas, Mission Bay, and the South of Market areas currently zoned M-1 were not prepared and were not necessary for the level of real estate and employment analyses in the Downtown Plan EIR. (See pp. IV.B.55-60 and IV.C.35-36 for discussion of the development potential in non-C-3 District areas and how this was considered in the forecasts.)

/10/ An Analysis: The Financial Feasibility of Public Transit Recommendations in the San Francisco Downtown Plan prepared for the San Francisco Chamber of Commerce, A. Lee Knight, February, 1984. This paper analyzes the financial feasibility of the region to support implementing actions called for by the Downtown Plan within the larger context of achieving the region's New Rail Starts Program while maintaining the Existing and Committed (E&C) regional transit system.

/11/ Telephone conversation with Jim Gallagher, Assistant General Manager for SamTrans, August 14, 1984.

/12/ It should be noted that much of this excess demand could be accommodated on transit systems with only the assumed amount of transit service. However, this mode shift assumption was not made for analysis purposes in part because ridership on the systems would then be pushed too far beyond the desired loadings (altough not beyond the physical capacities of the systems at maximum possible capacities). The mode shift assumption also was not made in part for technical modeling reasons to be sure that the Plan analyses results were comparable to the analysis of the other five Alternatives.

/13/ CalTrans' District 04 information memorandum, 1983 Traffic Performance of Bay Area Freeway System, documents the traffic performance of existing freeway systems within the nine Bay Area Counties. The information in the report is based on the Highway Operation Branch travel time inventories for 1983. This report is part of a continuing program begun in 1981 to monitor longitudinal data on traffic in the Bay Area. It is the third such report. Congestion was measured using the "Floating car" study method. In order to gather field data on freeway congestion by this method, cars are equipped with tachographs which record the car speed as the car travels along the section of the freeway under study. The data recorded on the tach cards are reduced and plotted on travel time and speed profile charts. Congestion was defined as a condition where the average speed drops below 40 mph on the freeway for 15 minutes or more on a typical weekday. It is important to note that the posted speed limit on the Bay Bridge and the portions of U.S. 101 and I-80 in San Francisco between the Bridge and the junction with I-280 is 50 miles per hour.

/14/ San Francisco Metropolitan Transportation District Cordon Count, San Francisco Department of Public Works, 1965. This report measured traffic entering and leaving the Greater Downtown at 89 measurement stations in 1965.

/15/ The Annals of San Francisco, Frank Soule, John H. Gihon, and James Nisbet, San Francisco, 1855.

/16/ Unpublished survey data for national downtown parking costs, Peat, Marwick and Mitchell, Washington D.C., August 7, 1984.

/17/ Readings in Urban Transportation, edited by George M. Smerk (Indiana University Press 1968). A short article, "Tide Turns for Transit" was originally published in Business Week, October 20, 1962.

/18/ Work Rescheduling and Traffic Relief: The Potential of Flex-time, written by David W. Jones, Jr., Frances D. Harrison, and Paul P. Jovanis, a Public Affairs Report Bulletin of the Institute of Governmental Studies, Vol. 21, February 1980, No. 1, University of California, Berkeley.

/19/ Jitney feasibility study 1978-82, unpublished research conducted by the San Francisco Department of City Planning. The study found that jitney service has limited potential in Downtown areas; rather, it's greatest potential is in providing feeder service to long haul carriers in residential areas, particularly those on narrower streets (e.g. BART's "Long Ranger" in Miraloma Park).

F. COMMUNITY SERVICES

A commenter states that office growth and its attendant population increase would affect the water systems, sewer services, noise, odors, water runoff, water quality and its use, schools, public transportation and park and recreational facilities. Sewer services was the only item singled out by the commenter for discussion. The response on sewer services follows in Section F.1. Public transportation is addressed in Response E, and noise in Response J. The remaining topics, as indicated on EIR page II.13, were found to be insignificant in the initial study incorporated into the EIR as Appendix A, and no further discussion is required.

F.1 WASTEWATER DISPOSAL/1/

F.1.1. New Sewer System

Some commenters noted that the new sewer system being built by the City's Clean Water Program is not yet complete and suggested that the system is a "boondoggle" or that it should be completed before the growth permitted by the Downtown Plan is allowed to occur. The sewer system that is under construction or was recently completed in the City is part of a Federally-mandated program to provide better sewage treatment and clean up U.S. lakes and rivers. All Bay Area communities are required to comply and in doing so have improved water quality in the Bay./2/ For example, the East Bay Municipal Utilities District upgraded the sewage treatment plant near the Bay Bridge to "secondary" treatment. The East Bay Dischargers consolidated several discharges south of Oakland to a single point in the Bay where dilution is better and Bay currents will flush the effluent into the ocean sooner. San Francisco's program is somewhat more complex than many other communities because the City has a combined sewer system that carries both sewage and rainwater runoff in a single set of pipes. The old system was not capable of handling all flows during heavy rains, so untreated sewage overflowed onto beaches and into the Bay during wet weather. The system that handles sewage flows from downtown buildings is already complete and provides secondary treatment for dry weather flows from the east side of the City.

San Francisco was required to improve treatment from primary to secondary for dry weather sewage flows and to reduce the number of times untreated sewage overflows the pipes during rainstorms. Because the City has a combined sewer system, large storage structures have been built or are planned which hold the combined flows during heavy rains and gradually release them for treatment before discharge. (It would have been unreasonable to build treatment plants large enough to treat the combined flows without storage, because rainwater runoff can be as much as 50 times the volume of the regular sewage, meaning treatment plants would need to be able to treat almost 50 times as much as they are now designed for.) The transport/storage structures are built under streets along the periphery of the City on both the east and west sides and are planned for the southeast area in the near future. (Environmental Impact Reports have been prepared on the overall system and on individual components. These EIRs provide more detail on the previous system and on the system as it is now proposed and under construction. All are available for public review at the Office of Environmental Review, Department of City Planning.)

San Francisco's Wastewater Master Plan envisions conveyance of all effluent into the ocean in order to reduce the amount of pollutants going into the Bay. The ocean outfall will discharge sewage more than four miles out in the ocean, providing the necessary dilution to meet Regional Water Quality Control Board's requirements. Studies show that the discharge would tend to flow in a northwest direction and would not reach Santa Cruz or Monterey areas, contrary to suggestions made in one comment. Regional Water Quality Control Board standards will be met, ensuring that unacceptable pollution will not occur.

It is true that storms during the winter of 1983-84 interrupted construction of this ocean outfall for about one year; however, construction resumed in March 1984, and is expected to be completed by about August 1986.

The Crosstown Transport Project, asked about in one comment, has not progressed beyond feasibility studies as yet for a variety of reasons. The grant program which provided 75% of the funding for much of the system was cut back in the early 1980's and the State of California reorganized its priorities for disbursal of the Federal funds it received. This meant that San Francisco, along with other communities applying for grant funding, needed to wait longer for money to build each component of the total system. This lack of funding has delayed design and construction of the crosstown Transportation Project as well as the treatment plant proposed for south of the San Francisco Zoo. Thus, the issue is not one of inept contractors who should be fired and replaced, as one commenter suggested, but one of timing, funding and design decisions.

In summary, the overall system being designed and built by the Clean Water Program is intended to handle combined volumes of rainwater runoff and sewage. The old system did "handle" sewage but did not provide primary treatment until the 1950's. Much was discharged without treatment. The North Point and Southeast Treatment Plants were not completed until 1951 and the interceptor system was not completed until the late 1950's. Until these components were added, sewage was removed from homes and commercial buildings as it is today but was simply dumped untreated into the Bay. The system that operated in the 1960's and 70's provided even primary treatment before discharge during dry weather; however, during rainy weather the system overflowed, dumping untreated sewage plus stormwater into the Bay and onto beaches an average of 80 times per year. The planned system will reduce these overflows to an average of 8 or fewer times per year when complete, and provides secondary treatment for flows from the east side of the City. Much of the system along the east side of the City is already complete; two seasons of operational experience have shown that this system is functioning well within its design parameters. Interim use of the West-side Transport is planned in order to reduce overflows on Ocean Beach (see Department of City Planning file 84.318E for more information on this project). Overflows in the Hunter's Point/Candlestick State Park area will be reduced with construction of the Yosemite Transport/Storage Project (see Department of City Planning file EE80.235) and the Hunter's Point Facilities and sewer modifications in the Southeast area of the City (file 83.342E). These projects are expected to be built in the next few years. Funding for the initial phases will be available in 1984-85.

F.1.2. Effects of Increased Development

Because the wastewater system is designed large enough to handle rainwater flows, additional development in the C-3 District will not affect operation of the sewer system. The size of the system is related to stormwater flow rates, not sanitary flow rate. Therefore, the wastewater issue was focused out of the EIR on the Downtown Plan (see Appendix A, Initial Study). The infrastructure for water delivery and and sewage disposal is already in place. New buildings may need to increase the sizes of water and sewer lines connecting to the main pipes under the street, but these are issues for individual building construction and would not change the ability of the overall system to serve increased development downtown.

Sewage must be pumped up to sewer mains from basements as one commenter noted. This is true for any building which collects sanitary sewage (from toilets, wash basins, etc.) below the level of the sewer mains under the streets, whether or not the building is in downtown. However, the entirety of a building's sewage is not collected in the basement and pumped up to the sewer; only that which originates below grade must be pumped. Thus, restrooms on the ground floor and above do not require pumping in order to cause sewage to flow into the pipes under the streets. It would not be cost effective for building owners to build their buildings such that all materials needed to be pumped up to city sewers. If a building is constructed with no drainage facilities below the level of the nearby sewer main, no pumping is required. This decision as to whether to place restrooms or other facilities such that pumping is needed is the owner's to make and does not affect the City's ability to provide sewage treatment.

F.1.3. Alternative Sewage Disposal Methods

Commenters suggested that alternative disposal methods should be used for wastewater from downtown highrises, including recycling "grey water" (water from sinks and drinking fountains) and composting toilet wastes. Reclamation alternatives were studied as alternatives to the Clean Water Program plans (this information is presented as Appendix A in the Wastewater Master Plan Final EIS/EIR, pages 191-273). Results indicate that it is not cost effective to use treated effluent in San Francisco because it requires additional processing and treatment and because it could be used only in industrial processes and San Francisco does not have sufficient demand. Limited agricultural use outside San Francisco would require expensive transportation systems. Health Department standards also require additional treatment for irrigation use within the City (e.g., when effluent is used for Golden Gate Park irrigation, it receives special treatment at the McQueen Plant) and prohibits use of effluent as a drinking water supply.

Individual buildings could install separate piping systems to collect water from sinks separate from toilet sewage and reuse it for toilet flushing, but a complex treatment system might be needed to remove soaps, detergents, other chemicals, and solids in order to avoid maintenance problems in the separate system using this "recycled" water. The amount of water saved (and therefore sewage not produced for treatment) would be small in relation to overall City use and would not affect water service or sewage treatment capacities, since it would not likely be done in the majority of new buildings and would not be economically feasible in existing buildings. Low flow facilities, which are required by State Regulations (Title 24 of the California Administrative Code) in new buildings and which can be installed in existing buildings, would reduce the burden on water and sewer systems as effectively with less cost.

Most home "grey water" systems use wash and bath water for irrigation of personal gardens. Such use would not be reasonable for large downtown commercial buildings because there is limited demand for irrigation. Also, because irrigation is only needed in summer and fall months, any burden placed on the sewage treatment system by grey water would only be relieved during the time when the system has plenty of capacity available.

The City's sewers and treatment plants are capable of handling increased volumes from downtown development. It is not likely to be economically feasible for individual building owners to provide for in-building treatment for all or part of the sewage produced, such systems would require additional energy for pumping treated water backup for re-use, and there is no reason for the City to require these systems because the City system is able to provide for necessary treatment.

Composting toilets are not widely available commercially in the Bay Area, as revealed in a survey of energy consultants, alternative energy centers and hardware stores./3/ Attention to composting toilets in current periodicals is limited to plans and specifications for rural residential applications./4/

Composting toilets have been used in a 20,000 square foot, two-story building in suburban Maryland. Negative air pressure protects against odors escaping from the holding tank during the composting process. The facility must be serviced periodically and compost removed. The remainder of the waste is ventered at roof level as water vapor./5/ Technical problems which would need to be addressed touse such toilets in the larger, taller buildings built in downtown San Francisco include the need for a straight vertical line from each toilet to a holding tank, and ventilation systems providing oxygen to the holding tank./6/

No methane is produced in this process because holding tanks must be ventilated to provide needed oxygen. Researchers at University of California Berkeley collecting information on the production of methane from sewage have not discovered examples of methane generation facilities serving individual buildings./7/

Composting toilets may have the potential to reduce water consumption, but any application in high-rise buildings must still be considered experimental.

F.2. FIRE AND POLICE SERVICES

F.2.1. Police Services

The increases in reported criminal incidents projected in the EIR (pp IV.F.11-13) are based on an assessment of reported incidents in 1982, compared to the then-existing square footage of building space in the C-3 District. These projections are believed to be a worst-case scenario since any future changes in land-use that might reduce the amount of crime in a subarea were not taken into account. Confirmation by one commenting group of the types of criminal incidents more likely to occur is appreciated.

The EIR addressed the need for increased police services as a result of the Downtown Plan or any of the other five Alternatives (see pp IV.F.12-13; VII.F.4 and Appendix K, pp.K.2-9). This estimate did include an estimate of need for one additional traffic control officer. The San Francisco Police Department does not have police officers assigned on a daily basis specifically to intersection control, although in special circumstances and for particular problems such assignments are made on an as-needed basis. The Chief of Police included a request for 15 officers to direct traffic in the downtown area in the 1984-85 budget request. This item was not included in the final budget after review by the Mayor's Office and Board of Supervisors./8/ As demonstrated by the ease of traffic movement during the Democratic National Convention in July 1984, the presence of traffic control personnel does improve intersection operation.

Based on the above information, the following should be added to the Community Services discussion on page IV.F.14 at the end of the first partial paragraph:

> "If an additional 15 officers were included for traffic control purposes, the increase would be about 1% of the 1981-82 Department's total strength. However, not all 15 new police officers would be required as a result of traffic from the forecast growth between 1984-2000, as some officers could be employed to reduce peak period intersection problems presently occurring (e.g., at First and Harrison Streets where levels of service were shown to be at F in 1981-82, as shown on p.IV.E.37)."/22A/"

New Note /22A/ should read:

> "/22A/ - The need for 15 officers was shown in the Chief of Police's budget request for 1984-85 but was cut out during review by the Mayor's Office and the Board of Supervisors. Some of the information provided in the text was from a telephone conversation with Captain Thomas O'Donnell, August 8, 1984."

The following mitigation measure should be added as the last item on p.V.E.30.

> "Traffic
>
> "Measure 53 would reduce peak period intersection congestion at the most heavily travelled downtown intersections,

improving traffic flow and thus also improving transit service and emergency services. This measure would not be necessary if goals of the Downtown Plan were met such that traffic did not worsen compared to existing levels."

"53. Consider providing traffic control personnel assigned to the most congested downtown intersections during peak commute periods on a daily basis if experience indicates a need for such service."

"This measure could be implemented by the San Francisco Police Department if funded by the Board of Supervisors."

F.2.2. Fire Services

Effects of the proposed Plan and of five Alternatives on the demand for fire protection services were assessed in the EIR on pp.IV.F.15-18, VII.F.5-8, and in Appendix K, p. K.10. A comment asks what the effect of continued development, with accompanying traffic effects, would be on emergency response times. According to the San Francisco Fire Department, emergency response time is presently about 3 minutes. Increased congestion would probably increase the length of response time but the change cannot be precisely quantified./9/ Although additional Police Department traffic control would not change present response time, it is not known whether such control would reduce any potential increases in response time due to traffic congestion.

NOTES - Community Services

/1/ Information in this section based in part on discussions with and reviewed by Louis A. Vagadori, Chief of Project Management and Coordination, San Francisco Clean Water Program, July and August, 1984.

/2/ Based on conversation with Donald Dahlke, staff of Regional Water Quality Control Board, July 25, 1984.

/3/ Firms listed in the September 1983 San Francisco Yellow Pages under "Energy Conservation Products and Services," "Energy Management and Conservation Consultants," "Water Conservation Service," University Energy Centers and local energy activists were called. Those available by telephone were surveyed about composting toilets and about other potential sources of relevant information.

/4/ The Readers Guide to Periodical Literature "Toilets-Composting" entry was checked from 1980 to current.

/5/ Michael Pierce, "Company Benefits by Going Solar: Energy Efficiency Goes to Work," Critical Mass Energy Journal. Vol.8, No.3, September 1982.

/6/ Jay McCarthy, Clivus Multrum USA, Boston M.A. Phone conversation, September 6, 1984. Douglas Still, Lane Energy Center, Cottage Grove, OR. Phone conversation, September 5, 1984.

/7/ Jesse Tatum, Energy and Resources Group, University of California, Berkeley.

/8/ Captain Thomas O'Donnell, San Francisco Police Department, telephone communication, August 8, 1984.

/9/ Robert E. Rose, Deputy Chief of Administration, San Francisco Fire Department, telephone communication of July 30, 1984, and letter of August 3, 1984.

G. ENERGY RESOURCES

G.1. ENERGY

New buildings in San Francisco are required to conform to energy conservation standards specified by Title 24 of the California Administrative Code. The State allows building developers to comply with the standards through the component performance standards method which requires the incorporation of a set of specific design features, through the use of nondepletable energy resources, or by demonstrating that the building would consume no more than a specified quantity of energy, expressed as Btu's per square foot per year (energy budget). This program is enforced at the city level, and is enforced in San Francisco by the Bureau of Building Inspection.

These standards are renewed and upgraded periodically. The California Energy Commission has recently published new standards, which are voluntary until 1987, and become mandatory thereafter. Building sponsors are required to abide by the standards that are in effect at the time that the building permit is submitted. Because of the time lag between the submittal of a building permit, and actual building completion and occupancy, the Downtown Plan EIR assumes that buildings constructed before 1990 would comply with the existing standards; those constructed between 1990 and 2000 would comply with standards which become mandatory in 1987 (see Appendix N, Page 4). This conservatively places an upper boundary on the level of energy consumption; the actual level may be lower if building owners elect to abide by the new standards prior to 1987, or if the State develops more stringent standards which become effective before the late 1990's.

As a means of further increasing the energy efficiency of new buildings in San Francisco, downtown builidngs which presently go through the discretionary review process are required by the City Planning Commission to consider 12 energy conservation measures. Sponsors are required to submit a report assessing the cost effectiveness of specified measures; they are further required to provide reasons for rejecting those measures not employed.

Passive solar energy, active solar collection for heating domestic hot water, and increased natural interior illumination (daylighting) are specified conservation measures which building sponsors must consider and assess for cost effectiveness. If these measures are shown to be cost effective, then they must be incorporated into the building design.

Most downtown office buildings, however, have no need for solar space heating. Due to the loads from lighting and occupants, the need is for cooling rather than heating which is not easily or economically provided through solar energy. In addition, electricity generation through the use of solar photovoltaic cells are not currently cost-effective in San Francisco. Therefore, project sponsors are not required to consider solar space heating and cooling, or electricity generation.

Similarly, prospects for wind energy conversion systems in downtown areas are not promising due to the lack of availability of consistently adequate wind speeds, and to concerns about tower failure and rotor safety. Therefore, project sponsors are not required to consider wind energy conversion systems.

The discretionary review process requires that building sponsors consider and report on the use of alternatives to air conditioning such as natural ventilation and economizers. Economizers, which transfer the cooling energy inherent in the outside air to the interior of the buildings, is a preferred option to satisfy this requirement.

Natural ventilation is rarely selected as a means of using the cooling effect of the outside air for the following reasons. First, it has yet to have been demonstrated that energy consumption is actually reduced through the use of outside air. Buildings which make use of sophisticated energy management systems may be affected by the uncontrolled amount of infiltration (even when closed, operable windows may increase unwanted outside air infiltration unless the windows are properly equipped with weather stripping gasketing and tight locking devices). Furthermore, air movement caused by "the stack effect" within highrise buildings could cause draft problems for people near the windows affecting their health. Maintenance costs on the air conditioning system would also increase due to the greater amount of unfiltered air which would be used in the building. In addition, natural ventilation cannot penetrate deeply into a building, and building plans would need to be configured to take advantage of it. Usually this kind of plan would not be possible in downtown areas as building orientation is fixed and sites are usually surrounded by existing buildings. Local noise and air quality conditions are health factors which would be considered. Finally, safety considerations may preclude natural ventilation from further consideration for high rise buildings.

G.2 STAFF-INITIATED TEXT CHANGES

Page IV.G.7, full paragraph two, sentence two should be amended as follows:

> "This energy is equivalent to about 32 trillion Btu per year..."

Page N.2, Table N.2, row two, column three should be amended as follows:

> "150(e)" where footnote(e) reads "Based upon 7.175 million sq. ft. of office space and 123 residential units."

Page N.2, Table N.2, row three, column three should be amended as follows:

"5050(d)".

Page N.5, Table N.3, row one, column three should be amended as follows:

"5050".

Page N.5, Table N.3, row two, column three should be amended as follows:

> "294(e)" where footnote(e) reads "Based upon 10.995 million sq. ft. of office space and 1,353 residential units."

Page N.5, Table N.3, row three, column three should be amended as follows:

"5350 (d)."

Page N.6, Table N.5, row one, column three should be amended as follows:

"5350."

Page N.6, Table N.5, row three, column three should be amended as follows:

"5600 (e)."

H. SIGNIFICANT BUILDINGS, AMENITIES AND COMFORT, AND URBAN DESIGN

H.1. SIGNIFICANT BUILDINGS

For preparation of the proposed amendments to the City Planning Code, consideration is being given to comments by Nancy Shanahan, Attorney for the National Trust for Historic Preservaion.

H.1.1 Preservation History

Article 10, Appendix A of the 1979 edition of the City Planning Code contains the List of Designated Landmarks approved by the Board of Supervisors. This list along with the additional buildings designated as landmarks within the last five years (available at the Department of City Planning, 450 McAllister Street) shows the current state of designated landmarks. See page C&R-H.2 for a list of designated landmarks which are located in the C-3 District.

A commenter suggests that landmarks have been demolished. No designated landmarks have been demolished. However, it is possible that the commenter was refering to the buildings rated by the Foundation for San Francisco's Architectural Heritage and not to designated landmarks. In the C-3 Districts, from 1979 through 1984, a total of 55 buildings rated by Heritage were demolished. Out of the 55 buildings demolished, 4 were partially retained. Below is a table which shows the number of rated buildings demolished per year. There have been no Heritage A-rated buildings demolished in 1983 or 1984. The table does not indicate an accelerated loss of buildings.

TABLE C&R H.1: DEMOLITION OF HERITAGE-RATED BUILDINGS, 1979-84

YEAR DEMOLISHED	HERITAGE RATING				
	A	B	C	A (PARTIALLY DEMOLISHED)	TOTAL
1979	1	1	9	-	11
1980	2	5	6	1	14
1981	-	4	3	2	9
1982	-	1	-	1	2
1983	-	4	7	-	11
1984 (July)	-	2	6	-	8
TOTAL	3	17	31	4	55

Table C&R-H.3 lists each of the demolished Heritage-rated buildings, identified by address, name and assessor's block and lot, as well as the Heritage rating.

TABLE C&R H.2: DESIGNATED LANDMARKS IN THE C-3 DISTRICT

Landmark Number	Name	Location	Assessor's Block/Lot	Effective Date
3	Bank of California	400 California	239/3	09-03-68
4	St. Patrick's Church	756 Mission St.	3706/68	09-03-68
7	Audiffred Building	1-21 Mission St.	3715/1	10-13-68
18	Garden Court of the Palace Hotel	633 Market St.	3707/52	03-09-69
37	Hallidie Building	130 Sutter St.	288/27	04-04-71
72	V.C. Morris Building	140 Maiden Lane	309/19	03-07-75
73	Lotta's Fountain	Intersection of Market Geary, and Kearny Sts.		07-19-75
76	Mills Building & Tower	220 Montgomery &	268/6,7,8	11-08-75
77	Samuel's Clock	220 Bush sidewalk in front of 856 Market St.		12-07-75
82	Geary Theater	415 Geary St.	316/1A	07-11-76
87	Jessie St. Substation	220 Jessie St.	3706/70 ptn	07-09-77
94	Orpheum Theater	1192 Market St.	351/22	07-09-77
107	Rincon Annex	Mission at Spear	3716/1 ptn	02-10-80
109	A. Borel Bank Partially Demolished	440 Montgomery St.	239/12	04-06-80
110	Italian American Bank (Partially Demolished)	460 Montgomery St.	239/14	04-06-80
113	S.F. Mining Exchange	350 Bush St.	269/3	10-05-80
131	Union Trust Branch of Wells Fargo Bank	744 Market St.	312/6	08-02-81
132	Savings Union Branch of Security Pacific National Bank	1 Grant Avenue	313/8	08-02-81
141	Home Telephone Co.	333 Grant Avenue	286/2	12-06-81
142	PG&E Old Station J	569 Commercial St.	228/11	12-06-81
143	Fire Department Old Station No. 2	466 Bush St.	270/9c	12-06-82
144	The Hoffman Grill	619 Market St.	3707/55	12-06-81
145	The Buich Building	240 California St.	237/9	12-06-81
146	Jack's Restaurant	615 Sacramento St.	240/14	12-06-81
154	The Flood Building	870-898 Market St.	329/5	07-10-82
155	The Flatiron Building	540-548 Market St.	291/1	07-10-82
156	The Phelan Building	760-784 Market St.	328/1	07-10-82
158	Federal Reserve Bank	400 Sansome St.	229/3	01-07-83
160	Royal Insurance	201 Sansome St.	260/5	04-10-83
161	Kohl Building	400 Montgomery St.	239/9	04-10-83
162	Hobart Building	582-592 Market St.	291/6	07-09-83
163	Sharon Building	39-63 New Montgomery St.	3707/35	07-09-83
167	Metropolitan Life	600 Stockton St.	257/12	06-03-84

TABLE C&R-H.3: RATED BUILDINGS DEMOLISHED IN THE DOWNTOWN: 1979 to JULY 1984

Block/Lot		Name	Address	Rating Heritage	Date of Demolition
237	15	White & Co.	280 Battery	B	1981
289	31	Anglo & London Paris Bank	1 Sansome	A	(Partial) 1982
289	4	Holbrook Building	58 Sutter	B	1982
329	2A	Hart, Schaffner & Marx Clothes Building	840 Market	B	1981
3709	4	Yawman-Erbe Mfg. Co.	50 Fremont	B	1980
3709	7		400-418 Mission	C	1980
3709	10	Golden Gate Building	51-63 First	C	1980
292	6	Thomson & Orman	110-116 Kearny	C	1980
292	8	White Building	120-130 Kearny	B	1980
292	4	Foxcroft Building	62-82 Post	B	1980
237	16		353 Sacramento	B	1981
288	5		109-123 Montgomery	C	1981
288	4	Wilson Building	125-129 Montgomery	C	1981
288	3		133-137 Montgomery	C	1981
288	2	Steil Building	141 Montgomery	B	1981
LM #109					
239	12	A. Borel & Co.	440 Montgomery	A	(Partial) 1981
LM #110					
239	14	Italian American Bank	460 Montgomery	A	(Partial) 1981
313	14	City of Paris	199 Geary	A	1980
313	15	Whitney Building	133-153 Geary	B	1980
295	7	Fitzhugh Building	364-384 Post	A	1980
3712	25	Young Building	101-105 Market	B	1980
3712	-	Lincoln Hotel	115-121 Market	C	1980
3712	-		125-131 Market	C	1980
3712	-		9-23 Main	C	1980
269	2		334 Bush	C	1979
269	2a		344 Bush	C	1979
3703	66	Forest Building	1053-1055 Market	A	1979
223	32	Powell Cinema	35-41 Powell	C	1979
208	2		643 Montgomery	C	1979
263	2	Oceanic Building	2 Pine	B	1979
263	4	Kirkham Building	64-70 Pine	C	1979
263	5		124 Front	C	1979
263	6		136 Front	C	1979
263	7	Isuan Building	140 Front	C	1979
263	8	Commercial Building	146-150 Front	C	1979
3709	12	Sheldon Building	3-15 First	B	1984
3709	11	Blake, Moffit, Towne	25-41 First	B	1984
311	46	Maskey	46-52 Kearny	B	1983
311	10	Bullock & Jones	60-62 Kearny	B	1983
288	20	Financial Center Garage	355 Bush	B	1983
3708	29		64 Jessie	C	1984
3708	28		71 Stevenson	C	1984

TABLE C&R-H.3: RATED BUILDINGS DEMOLISHED IN THE DOWNTOWN: 1979 to JULY 1984 (Continued)

Block/Lot		Name	Address	Rating Heritage	Date of Demolition
268	17		240 Montgomery	C	1983
268	18		248 Montgomery	C	1983
268	19		256 Montgomery	C	1983
3717	14		199 Mission	C	1983
3707	56		613-617 Market	C	1984
3707	54		621 Market	C	1984
3707	3		30 Second	C	1984
3707	59		17-29 New Montgomery	C	1984
3706	28	(YBC)	49 Fourth	B	1983
3707	29	Breen's (YBC)	71-77 Third	C	1983
3707	28	(YBC)	81-85 Third	C	1983
3707	25	Grace Building (YBC)	87-97 Third	C	1983
227	5		527 Montgomery	C	Approved 1984

H.1.2 Proposed Changes to Categorization Of Buildings

The Department of City Planning is addressing questions on the rating and categorization of architecturally significant and contributory buildings by convening a formal review panel made up of Department of City Planning staff members with experience in architectural preservation, architectural history, urban design, planning and architecture. This panel is reviewing the ratings of structures at the request of property owners and other interested parties. Any new data which has been uncovered regarding the structure, as well as existing data, is examined and a site visit is made. The review panel will look at recent alterations to the structure and changes in the surroundings which affect the structure's relationship to the environment. If the review of information or site visit indicates that significant changes have occurred since the rating of the structure, this will prompt a re-rating of the structure for design or relationship to the environment. This may affect the category in which the structure is placed.

Commenters on the DEIR concerned with categorization of individual buildings have been contacted regarding the aforementioned process. The Department of City Planning is responding in a prompt and comprehensive manner to issues raised regarding the categorization of individual buildings.

A concern has been raised that due to fire and safety regulations, it would be infeasible to preserve any more than the facade of the Category II buildings. If the fire and safety regulations should conflict with the requirement that a substantial portion of a Category II building remain intact, then the stricter of the regulations would apply. In this case, the requirement that a substantial portion of the structure remain intact would be the stricter of the two regulations.

A request was made that proposals for alteration of buildings include photo-montages, perspective drawings, or models. This would be done as part of the discretionary review process by the Department of City Planning.

H.2. STREETSCAPE AND PEDESTRIAN AMENITIES

The areas chosen for streetscape analysis were selected as examples which could be extrapolated to provide an indication of the streetscape and pedestrian effects of the Downtown Plan on a wide range of areas. The DEIR did not examine the most densely developed areas as these areas would show the least change in the streetscape. Instead, the areas selected for study are illustrative of the kind of new development which would take place under the Downtown Plan ranging from the downtown financial core to the special development district south of Market. More examples would not provide more information as the illustrations are conceptual and are not based on actual development proposals. The examination and publication of 8-10 more areas could result in a public conception of an accuracy to these projections which would not be warranted. Specific streetscape analysis would be appropriate when projects are proposed for development.

The Downtown Plan has incorporated a number of new proposals to ensure that the streetscapes of San Francisco remain attractive and comfortable for pedestrians. The proposals includes a requirement to maintain existing streetwall heights by the use of cornices and other horizontal-defining elements, and setbacks above a certain height. This would avoid the canyon effect created when large towers rise from the street without a setback. The Plan also proposes the provision of open space for downtown commercial structures which could be met in a variety of ways, both on-site and off-site.

The Plan would also preserve areas of special character which contribute to the charm and attraction of San Francisco. In addition, the Plan would limit the amount of wind created by new structures, to maintain comfortable open spaces and sidewalks in San Francisco's temperate climate. The Plan would preserve sunlight on selected sidewalks which are heavily used and on parks in the downtown and would encourage the provision of ground floor retail to create interesting views for pedestrians as well as limit blank walls and large office uses at the ground level. Pages V.H.3 and V.H.4 of the EIR contains mitigation measures based on these provisions of the Plan.

As buildings are constructed, their presence would reduce the amount of visible sky observable from streets. Through the use of more stringent bulk controls, TDR's, and sunlight performance standards for streets and parks, the amount of sky obscured in the future would be less than would be obscured under current controls.

Shifting development demand to the South of Market would tend to maintain a greater degree of open area and sky visibility in the North of Market and Retail District. Sky views in the South of Market east of Third Street would, however, be reduced due to new development. Current zoning controls do not require setbacks. Buildings constructed before 1980 generally do not incorporate setbacks. Visually, buildings without setbacks tend to obscure more sky from a pedestrian point of view and tend to be less responsive to urban design and scale objectives. Building setbacks above pedestrian levels, in general, would tend to reduce wind impacts by diverting and dispersing wind currents (see Response H.3.).

Current C-3-O Zoning extends into the South of Market up to Natoma Street with allowable heights from 500 to 700 feet which are similar to zoning and heights of the Financial District. Over time, this area of the South of Market could develop in a manner that would be similar in character to the Financial District.

Use of TDR's from architecturally significant buildings to sites in the South of Market could result in development that would be denser than that which is possible under current zoning. Development over time could result in the loss of openness along streets South of Market. The loss of openness would not be as severe as that currently characteristic of Montgomery Street between Market and Washington Streets, because streets South of Market are wider than Montgomery Street. The general effect over time, however, could be similar. The application of sunlight access standards, required building setbacks, and a limitation on the amount of TDR that could be transfered to any given site could serve to retain the sense of openness on streets South of Market.

Based on comments, the following measure should be added as Measure 3 under Streetscape and Pedestrian Amenities on page V.H.4 of the EIR:

> "Proposals in the Downtown Plan to incorporate cornices and/or other architectural devices into new projects could be required through amendments to the City Planning Code. This measure would increase sky exposure, increase sun access to streets and sidewalks, establish better urban design scale and relationships to existing buildings, reduce bulk, and reduce wind impacts."

See Response H.4.1 for additional measures to require setbacks.

The reference to the streetscape advisory board mentioned in Mitigation Measure 2 (p. V.H.4) is an error and should be deleted. Page V.H.4, lines four and eight both contain references to Table IV.H.6, p.IV.H.35. The page number should be changed to "p.IV.H.36".

H.3. WIND, SUN AND SHADOW

H.3.1. Sun and Shadow

The EIR on the Downtown Plan covers proposed regulations limiting shadow and guaranteeing sunlight access to certain streets and open spaces at certain times of the day and year, in section IV.H. Impacts, Sun and Shade and V. Mitigation Measures, Wind, Sun and Shadow, on p.IV.H.43 and pp. V.H.4-5. The EIR discusses the shadow impacts of development forecast in the South of Market C-3 area on p.IV.H.43 with examples as illustrated in figures IV.H.14 and 15, pp.IV.H.41 and 42. The EIR notes that "average FAR and sunlight reduction are [now] least in the East and Central South of Market Subareas (Subareas 2 and 3)" (p.IV.H.18). The EIR presents sky plane exposures depicting expected development for 1990 and 2000 for four locations, two of which are South of Market, and discusses the impacts of these (pp.IV.H.41-43). The EIR recognizes the accelerated reduction of sunlight that would occur in that area, due to increased allowable heights in some parts of the C-3-O(SD) district. Existing and proposed public open spaces in the South of Market area would be protected by sunlight access regulations. (See Downtown Plan, p.100 and map 15 discussed on p.IV.H.43 of the EIR.) The proposed Amendments to the Downtown Plan, June 1984, (p.17), revise p.103 of the Plan to include information on Proposition K, adopted by San Francisco voters June 4, 1984, including modification of time of day criterion for these spaces to meet the requirements of the proposition. Two affected Recreation and Park properties South of Market are included in that discussion; they are the Langton Mini-Park (at Howard and Langton) and a new park being developed at Sixth and Folsom Streets.

The Downtown Plan discusses the need for open space, South of Market, on p. 50 and states that the Plan "approaches open space in a more comprehensive and systematic way and establishes guidelines to ensure the quality of future open space," and "envisions a downtown that will develop over the next two decades with substantial enhancement of open space." Designated streets in the conservation districts (including those South of Market) also have mandatory setback requirements to provide for direct sunlight access.

The open spaces in the downtown area and adjacent to the Downtown area that would be affected by Proposition K are Union Square, Langton Mini Park, Maritime Plaza, Justin Herman Plaza, Embarcadero Plaza, Portsmouth Square, St. Mary's Square, Civic Center Plaza, Central City Park, the Chinese Playground, and Sixth and Folsom Park.

The sunlight access requirements contained in the Downtown Plan would provide more protection from shadow impacts than provided under the present Planning Code (Alternative 1) or other alternatives proposed to control downtown growth, for publicly-owned open spaces in the C-3 District that perform many of the same functions as Recreation and Park owned open space, but which fall outside the jurisdiction of the City (for example, Hallidie Plaza, which is BART property).

Given the expanded time of year and time of day criteria of Proposition K, use of the affected public open spaces would not be limited to Downtown workers during office hours. Residents and school children will also be able to continue to use the protected open spaces after work and school, in morning and evening hours year round.

The ordinance proposed to implement the Downtown Plan also would provide for open spaces not regulated by Proposition K, as follows:

§147 SETBACKS AND HEIGHT REDUCTIONS TO PROVIDE SUNLIGHT IN PARKS AND PLAZAS.

(a) [legislation to implement Proposition K, which is proceeding independent of this legislation, will be inserted here]

(b) Minimization of Shadows on Other Public or Publicly Accessible Open Spaces. New buildings and additions to existing buildings shall be

> shaped, consistent with the dictates of good design and without unduly restricting the development potential of the site in question, to minimize shadow impacts on public plazas and other publicly accessible spaces other than those protected under subsection (a) above. [Legislation to implement Proposition K.] In determining the impact of shadows the following factors shall be taken into account: the amount of area shadowed, the duration of the shadow; the nature and extent of public use of the shadowed space during that time; whether other factors contributing to user comfort (wind, temperature and humidity) during the time of the shadow compensate for the loss of solar heat; and the importance of solar heat to the utility of the type of open space being shadowed. Determinations under this section shall be made in accordance with the provisions of Section 309.

The Department, in accord with the premise advanced by several commenters, determined that increased density in the C-3 District would mean at least some sidewalks and open spaces would need more protection. That is the basis for the sunlight access requirements proposed in the Downtown Plan and analyzed in the EIR. Proposition K, as noted above, provides year around sunlight protection for parks and squares which are, or will be, under the jurisdiction of the San Francisco Recreation and Park Department.

The setback controls proposed in the Downtown Plan (See EIR pp.III.4 and 14) have a variety of purposes, among which are ensuring sunlight access during certain specified periods of the year at specified times (see analyses on pp. IV.H.43, V.H.5, VII.H.9-12,20-22); improving the appearance of the skyline (see discussion on pp. V.H.5 and VII.H.22; and reducing the canyon - like effect of tall buildings lining relatively narrow streets (see pp.V.H.3-4). These setbacks would, as noted by one commenter, also provide more luminosity among these streets, even in places where direct sunlight may not be available.

The Downtown Plan encourages protection of sun access to 'snippets', (small, publicly-accessible open spaces which are usually privately-owned and maintained). The Plan does not propose height reduction in the areas surrounding existing 'snippets', such as the steps of the landmark Federal Reserve Bank Building on Sansome between Sacramento and Commercial Streets. However, in reviewing new development proposals, existing open space areas would be considered.

The shadow controls proposed in the Downtown Plan are not proscriptive. Neither do they dictate how new buildings should be designed. Rather, the Plan proposes specific setback requirements that would be, in fact, performance criteria. By establishing specific street wall heights and required setbacks, the proposed Plan simply provides for uniform application of the performance criteria which require that certain sidewalks and open spaces receive direct sunlight during certain parts of the day during specified parts of the year. The standards for street facade setbacks are based on specific localized conditions such as street width. They do not prescribe or prohibit particular building design or form within the setbacks.

A balance must be struck when planning for a large area of the City and some trade-offs made, as noted in comments on the EIR. During preparation of the Downtown Plan, the Department of City Planning identified various problems and potential conflicts in resolution of these problems (for example, possible conflicts among protecting sun access, preserving architecturally and historically significant buildings, and encouraging a shift in development to the South of Market C-3 area). The Plan establishes priorities based on particular, localized conditions for each area of the C-3 District, decisions influenced, in part, by analyses of alternatives contained in the Consultant's Report, "Growth Management Alternatives for Downtown San Francisco." The Plan recognizes that not every space can be permanently assured of direct sunlight at all times. Open space must be balanced with space for commerce and space for housing. Height zones, bulk controls, architectural guidelines, and open space guidelines all work together to create a vital, comfortable, and economically vigorous downtown. (Plan, p.52) The Plan proposes a balance of priorities to resolve conflicts in each planning area. The policies of the Plan, as implemented by proposed legislation, are not limited to criteria/guidelines for building design (designing "good buildings"), but encompass preservation, sun access, wind effects, transportation issues, and other factors important in guiding and controlling development in the downtown area. The Alternatives analyzed in the Downtown Plan EIR propose different balances of priorities with 'trade-offs' made in different ways from those made in developing the Downtown Plan.

One comment requests that the EIR provide detailed drawings showing alternative building configurations based on the different sunlight access setbacks, wind criteria and possible luminosity criteria for all areas with height limits over 300 feet. The EIR covers a plan for the entire C-3 District area, much of which is proposed under the Downtown Plan for height limits over 300 feet. The EIR must therefore be somewhat general in its coverage of urban design implications, particularly of individual building design. Individual solutions to building design on a particular site under the various controls proposed in the Downtown Plan and in Alternatives covered in the EIR could be infinite, depending on variables such as site size, FAR with and without TDR, and the project sponsor's program. Also, regardless of the criterion used for sunlight/daylight access, wind criteria would also apply to most sites and thus would add still another variable. Finally, shadow and wind requirements were generally accounted for in the analysis of construction feasibility which was one of the factors entering into the land use and employment forecasts for all six alternatives, and in the analysis of streetscape and skyline image effects of all six alternatives.

H.3.2. Wind

The ground level wind impact of buildings is generally related to three factors: exposure of the building to the prevailing wind direction (the amount of the building that 'sticks up' above upwind buildings), the extent (dimension) and uniformity of the windward facade, and the location of the site on the block (EIR, pp. IV.H.34 and 36). Setbacks do not always mitigate against wind. All else being equal, setbacks in an upwind facade will reduce wind effects.

Wind tunnel tests are presently performed and analyzed for major proposed buildings in San Francisco. The EIR notes that "since [1974] the City of San Francisco has required wind tunnel studies of proposed highrises as part of the environmental review process. This policy has ... resulted in design modifications to reduce winds" (p. IV.H.17). The wind tunnel analysis includes identification of design features that could reduce project-generated winds to meet the defined comfort criteria, where possible, and the Planning Commission may require such features, if not proposed by a developer.

Regarding setbacks, as described in the EIR, "the Downtown Plan contains measures that would establish sun access criteria to ensure direct sunlight to certain public sidewalks (see Plan, page 99); create sun access criteria for parks, plazas, squares and lunchtime malls (see Plan, page 103); and modify building forms to reduce street level winds in the vicinity of new buildings (see Plan, page 104)" (EIR, page V.H.4). The Plan proposal for sun access criteria to allow sunlight to reach designated sidewalks and other areas during critical hours of the day would be expected to result in building setbacks. The criteria regarding wind contained in the proposed Planning Code Amendment language would also be expected to result in building setbacks. The bulk requirements of the Plan, which are described in the EIR, on pages III.3-4, and 14, and discussed on p. IV.H.45, and include increased setbacks corresponding to increased height, would allow more light to reach the street than would current controls.

Both the Downtown Plan criteria and the proposed Planning Code Amendment language regarding wind are intended to establish a performance standard as suggested by one commenter. The Code would set requirements for buildings including specifying maximum allowable winds due to a new building, and would provide for cases that may warrant exceptions, where winds would not be reduced without creating an awkward and unattractive building and the wind impact can be shown to be insignificant based on use and comfort criteria including temperature, humidity and solar radiation. The proposed Planning Code language (Section 148(b)) to implement the wind reduction features of the Downtown Plan would not allow requirements to be waived except in the specifically-defined circumstances discussed above. In such circumstances, the Planning Commission would evaluate exceptions on a case-by-case basis.

The EIR describes measures that would refine the general recommendations contained in the Plan, to reduce street level winds near new buildings: "Develop specific statistical criteria for wind acceptability. Wind speed is variable and is best described statistically. The eight-mile-per-hour criterion in the Downtown Plan does not specify the applicable direction, time of day, or whether the criterion represents an average speed or some other statistical parameter. Studies should be undertaken to develop a simple statistical criterion... that accounts for annual, daily and seasonal wind speed variations." (EIR, p.V.H.4)

To carry out this mitigation measure, the proposed Code language implementing the Plan describes, in greater detail, requirements regarding ground level wind speeds, taking into account existing wind speeds which may exceed the maximum levels and parameters of the wind measurement. (See Proposed Amendments to the Planning Code to Implement the Downtown Plan, June 1984, page 62.) The Code would require that new structures, or additions, not cause ground level wind currents to exceed, more than 10% of the time year round between 7:00 a.m. and 6:00 p.m., the defined comfort levels of 11 miles per hour equivalent wind speed/1/ (in pedestrian areas) and 7 miles per hour equivalent wind speed (for sitting areas) (Code Amendments, page 62). The revised language refines the wind speed parameters of the Plan, as described in the EIR mitigation measures, from the single, eight-mile per hour maximum allowable speed, accounting for winds in excess of the comfort levels at some times of the day and year.

H.3.3. Staff-Initiated Text Changes

Page IV.H.16-17: The last sentence on p.16, should read:

> "Since 1974, the City of San Francisco has required wind tunnel studies of proposed highrises as part of the environmental review process."

The year was given as 1975 in the EIR.

Page IV.H.21., Figure IV.H.5: Bioclimatic Chart for San Francisco. The words: "July" and "October", should be switched.

Page IV.H.21: The source given at the bottom of the figure should be SOURCE:

> "Donald Ballanti and Ed Ahrens." Mr. Ahrens name was inadvertently omitted.

H.4. URBAN DESIGN

H.4.1 Building Bulk, Density And Height

An analysis of possible future development was conducted as part of the Downtown Plan analysis and modeled by the University of California Environmental Simulation Laboratory. Similar analysis was performed as part of the Downtown Plan EIR.

Perceptions as to whether a building is too large, tall, wide or bulky (ie. too dense) are subjective. The Downtown Plan would limit future density in the existing Retail District and Office District North of Market through prohibitions on demolitions of Category I Buildings, proposed bulk controls, proposed height reclassifications, sunlight access and open space requirements.

Written, graphic and oral comments suggest that building densities allowed by the Plan in the South of Market portions of the C-3-O district would be similar to those allowed in Midtown Manhattan. However, drawings presented at the public hearing on April 26, 1984, of Mission Street looking east from Second Street in 1990 and 2000 do not take into account the 200 foot height limit proposed by the Plan for Second Street, the Category I buildings that could not be demolished, and the Category IV buildings that could be replaced only with buildings of similar scale.

The EIR in Appendix D estimates a range of 10:1 to 30:1 FAR in the C-3-O district South of Market. However, even though it would be theoretically possible to build one or two buildings at an FAR of 30:1, in reality, given the bulk and sun access criteria of the Plan, it would require the ability to assemble a site which is not only of optimum size (27,000 square feet) but also in the highest height district (550 feet).

Furthermore, in terms of "perceptual" density or density that is visually perceived, a 30:1 FAR building resulting from proposed Plan controls would not be visually similar to the 30:1 FAR of the Empire State building. The Empire State building sits on an 85,000 square foot site with an average floor plate of over 30,000 square feet and is 102 stories tall. By comparison, if a 30:1 FAR Downtown Plan building were to be built, it would be about 42 stories tall with average floor plates of about 18,000 square feet. If the FAR of the Empire State Building were to be calculated for comparison of visual impact, its 2.5 million square feet of floor space over its average floor plate of 30,000 square feet would yield an FAR of 83:1 as compared with the Downtown Plan building's FAR of 30:1. Compared with densities in Midtown Manhattan, the increased densities of the transferee sites under the Plan would be far less than the 46:1 FAR proposed in the Time Square developments in New York.

Literally 30:1 within a city planning context means that a building contains floor area that is equal to 30 times the site area (development parcel) upon which the building is built. This is also known as the building floor area ratio or FAR. Under current zoning, including the bonus provisions of the code, building densities of approximately 25:1 are achievable. Under the Downtown Plan, an individual building could have a footprint FAR of 30:1, the ratio of the building area to the site area it is built on. This is similar to saying that the Bank of America building has a footprint FAR of about 50:1 since that is the ratio of floor area to the site area covered by the building. However, when the plaza, banking hall and Montgomery Street properties are included as part of the development parcel, then the FAR for the Bank of America building is about 18:1. Under the Downtown Plan building densities in the C-3-O district could not exceed 10:1 if TDR's were not to be used. If TDR's were to be used, then the transferor parcel would be considered as part of the development parcel and the two sites, the transferee and the transferor sites, could not exceed a FAR of 10:1. Thus the total FAR under the Plan would never exceed 10:1.

Height and bulk would conform to requirements on the receiver site when TDR's would be used. Any impacts from a specific development proposal would be analyzed on a case-by-case basis. Public reaction and other factors would be considered to insure that the TDR system would not be jeopardized.

The bulk, setback and upper tower reduction provisions of the Downtown Plan have been formulated to direct future building design into configurations that would minimize bulkiness and density. These bulk, setback, and upper tower reduction requirements would be more restrictive than those currently in effect. Departmental experience has been that sculpturing building tops and overall building form often is effective in reducing the perception of bulk. Many older buildings such as the Shell building, Russ Tower, and Mills building empirically demonstrate that the manner in which a building is treated architecturally contributes to perceptions of bulkiness and density.

It should be noted that the Downtown Plan Proposed Amendments, (June 1984, p.16, Chart C) proposes that property line setbacks be increased on a progressive scale from 15 feet to 35 feet, starting at a height of 1.25 times the street width. Since buildings would be required to step back from each side of the property line, this would result in mandatory building separations between new buildings of 30 feet, between heights of 1.25 times the street width, and increasing to a separation of 70 feet at a height of 550 feet. Mitigation measures under Skyline Image on page V.H.5 of the EIR would cover these proposed setbacks.

One comment suggests that bulk guidelines of Chart A and B (page III.14 of the EIR) should not be relaxed. On the contrary, in response to other comments about bulk of buildings the Department has proposed revisions to the Plan that would require buildings to be more slender and not bulkier. (Downtown Plan Proposed Amendments, June 1984, pp.14-16). As a consequence, the following measure should be added to the section on Skyline Image on page V.H.5 of the EIR:

> "To make buildings appear more slender without increasing their heights, the bulk rules could be revised as shown in Chart A and Chart B such that the height of the lower tower is reduced and consequently the upper-tower is made longer. This would result in a small reduction in overall floor area since smaller upper tower floor plates would be replacing some of the larger lower-tower floor plates. The overall reduction in potential development envelope in all the opportunity sites analyzed would be less than 5%. Consequently, there would be no significant change in the impacts analyzed in the DEIR."

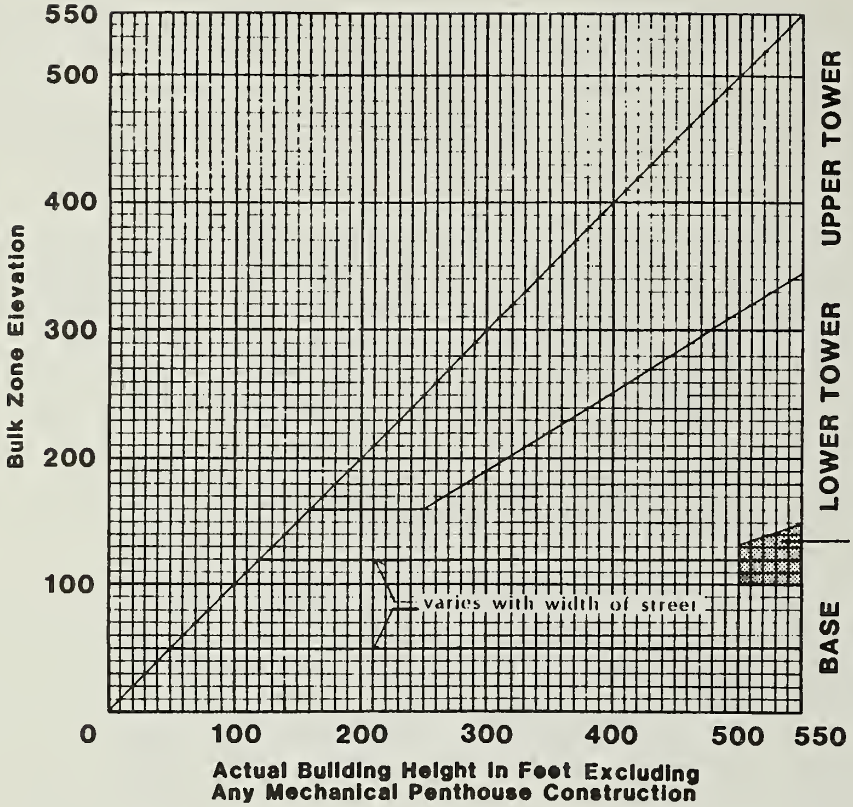
Chart A and Chart B on page III.14 of the EIR should be replaced with revised Chart A and Chart B (below).

The Downtown Plan has proposed to increase heights in the C-3-O (SD) district to both allow for future development of office space and to provide a transition in height from the taller buildings along Market Street. Height and bulk regulations as proposed in the Downtown Plan would create a more attractive skyline with more slender towers than would existing regulations. In the future if buildings were constructed in the C-3-O (SD) district, they would mask existing bulkier buildings.

Density in the C-3-O (SD) District would be partially controlled by Building Department requirements limiting buildings fronting on streets less than 45 feet in width to a height twice the street width. Based on comments about perceptions of bulk and skyline benching, the following measure should be added to the section on Skyline Image on page V.H.5 of the EIR:

> "Bulk and skyline benching could be controlled by allowing greater height than permitted on the zoning height map if the upper-tower portions of new buildings were to reduce their bulk more than that required under basic bulk controls. These further bulk reductions would encourage slimmer towers that would be more attractive as skyline elements, would provide greater space between towers and would allow for expanded sky exposure. Taller buildings would cast longer shadows, however."

CHART A
BULK LIMITS



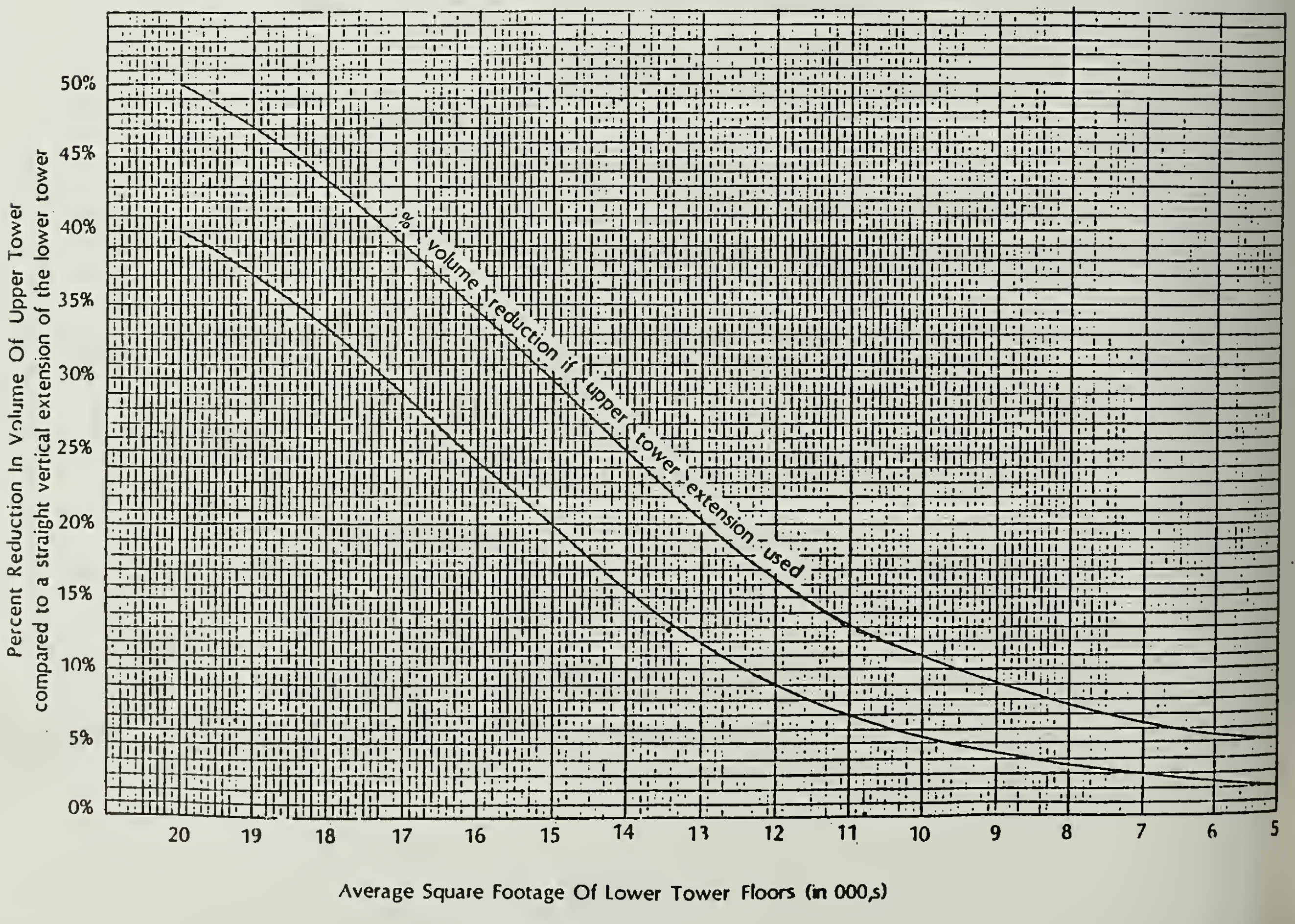
Max. Plan Width 140 Ft.
Max. Average Diagonal 160 Ft.
Max. Average Floor Area 12,000 sq.ft.
Max. Floor Area 17,000 sq.ft.
Volume reduction as determined by bulk control Chart B

Max. Average Floor Area 20,000 sq.ft.
Max. Plan Width 160 Ft.
Max. Average Diagonal 200 Ft.

Exceptions for buildings over 500 feet in height solely to accomodate elevators
Max. Plan Width 190 Ft.
Max. Diagonal 230 Ft.
Max. Floor area 25,000 sq.ft.

Height of Base Zone may not exceed 1.25 times the width of largest abutting street, except that in no case shall the base zone be limited to less than 50 feet.
No area or plan restrictions
No maximum floor area

CHART B BULK CONTROL
UPPER TOWER VOLUME REDUCTION



In addition, the Downtown Plan Proposed Amendments include further reductions in base FARs in C-3-G and C-3-S Districts (see Response C. and Y.1 for more detail); these FAR reductions would reduce building size.

Analysis of individual projects on a case by case basis by Department staff would identify density concerns that could be controlled with mitigation measures and conditions of approval.

The existing height classification of 665 Bush Street is 250 feet. However, the project was approved with a 130 foot height on June 28, 1984, in conformance with proposed heights of the Downtown Plan. The 212 Stockton project was approved with a 137 foot height on June 7, 1984, under the existing 140 foot height classification, instead of under the lower heights proposed by the Downtown Plan. This project was exempt from interim controls (Ordinance 54-84, in effect from March 4-August 25, 1984) because the proposal contained less than 50,000 sq. ft. of new office space. The EIR reported the height and bulk districts of the Downtown Plan as of November 1983. Since publication of the Draft EIR, further revisions have been proposed to the Downtown Plan in response to comments on both the Plan and the EIR.

H.4.2. Comparison of Existing and Proposed FARs

One comment suggests that the Plan proposes to measure FAR differently for existing and new buildings. It should be made clear that the rules for calculating FAR are proposed to be changed by the Plan, but the intention has always been and still is to apply the same proposed rules in calculating FAR both to existing buildings for the purpose of determining how much floor area can be transferred as well as to new buildings in determining how much floor area may be purchased.

The Downtown Plan definition of FAR excludes space for cultural, educational or other uses in commercial buildings in the C-3 District that are available to the general public free or at a fee covering actual operating expenses. Therefore, these spaces would be excluded from TDR transfer calculations from these sites, as suggested by a comment. No change to the Plan or the EIR is needed to accomplish this suggestion.

The Downtown Plan proposes rules for calculating Floor Area Ratios of buildings which are different than those in the existing City Planning Code. For example, in the C-3-O, C-3-O (SD) and C-3-G districts the permitted ground floor uses would be excluded from the base FAR calculation; thus, the effective base FAR would be one more than that which is designated (Downtown Plan, November 1983, pp.27-29; Downtown Plan Proposed Amendments, June 1984, p. 5). Additionally, to encourage architectural embellishments, deep-set windows and bay windows, the Plan proposes revisions to current regulations for calculating gross floor area; the proposed rules in the Plan would measure only up to the window glass line such that decorative exterior features and one-third of the floor area of a bay window extending beyond the exterior plane of the facade would not be counted against FAR (Downtown Plan, November 1983, p. 105). Such features are counted as part of FAR in the present Planning Code. These differences between the existing and proposed rules for calculating floor area ratios can be summed up by the following formula:

$F = 1.02 \times (1 + F_1)$;

Where, F is the FAR resulting from existing rules;

F_1 is the FAR resulting from proposed rules./2/

The Downtown Plan proposes the following designated FARs for the C-3 districts:

C-3-O, 10:1; C-3-G, 6:1; C-3-R, 6:1; C-3-S, 5:1; C-3-O(SD), 6:1

Using the formula explained above, the equivalent FARs in terms of existing Code rules would be as follows: C-3-O, 11.17:1; C-3-G, 7.11:1; C-3-O(SD), 7.11:1. In the C-3-S and C-3-R districts, since the ground floor uses would not be excluded from the FAR calculation, the differences would arise from measuring floor area only to the glass lines of windows and not to the the exterior surface of the walls and counting only a third of the floor area in bay windows (assuming an average use of bay windows) as explained above. Thus their equivalent FARs would be: C-3-R, 6.11:1; C-3-S, 5.09:1.

In equivalent terms, therefore, the percent reduction in FARs in the C-3 districts as measured by existing rules are:

DISTRICT	EXISTING FAR	PROPOSED FAR	EQUIVALENT FAR	% REDUCTION IN PROPOSED FAR
C-3-O	14:1	10:1	11.17:1	20
C-3-G	10:1	6:1	7.11:1	29
C-3-R	10:1	6:1	6.11:1	39
C-3-S	7:1	5:1	5.09:1	27
C-3-O(SD)	N/A	6:1	7.11:1	N/A

It should be further clarified that the reduction in actual FAR because of the proposed rules in the Plan would be even more than what is indicated by the table above since bonuses of floor area would no longer be permitted. Under the existing rules a measured FAR of 14:1 in the C-3-O district resulted in the average building having an actual FAR of greater than 16:1 because of bonuses. The average FAR of all buildings in the C-3-O district was estimted to be about 16:1 in 1979 (October 1979 Sedway/Cooke study - Downtown San Francisco Conservation and Development Planning Program-Phase 1 Reconnaissance and Programming, p.12, Table 2).

The formula explained above could also be used in determining what the FARs of a buildings permitted under existing rules in the last five years would be if the proposed rules for calculating FAR were used in measuring them. For example, if a building were approved under the existing rules and its FAR were calculated to be 14:1, with permitted average bonuses its actual FAR would most likely be 16:1. (However, bonuses have been prohibited for office buildings in the last three years.) If the proposed rules for measuring FAR (which do not allow any bonuses) were applied to the same building it would yield an FAR of 15.3:1.

H.4.3. Skyline Views

The downtown skyline graphic from Potrero Hill in the year 2000 has been amended to update the graphic and to include development which could occur under the Rincon Hill Plan. This new graphic, below, should be included in the EIR as Figure IV.H.18, following Page IV.H.46. A downtown skyline graphic (including development which could occur under the Rincon Hill Plan) from Treasure Island in the year 2000, below, should be included in the EIR as Figure IV.H.19. No skyline graphics have been prepared from the north (as viewed from Vista Point across the Golden Gate Bridge in Marin) or west because the profiles of the downtown skyline would remain generally the same from these viewpoints.

The existing skyline could be retained by reducing heights throughout the C-3 Districts or by imposing a permanent moratorium on development downtown. The future Skyline would then appear as it does today.

NOTES - Architectural/Historic Resources and Urban Design

/1/ The term "equivalent wind speed" (as included in the Proposed Amendments to the Planning Code) means an hourly mean windspeed adjusted to incorporate the effects of gustiness or turbulence on pedestrians, and is equal to the mean steady wind speed, times the quantity: one plus three times the turbulence intensity.

/2/ The formula is derived as follows:

The DEIR analyzed building prototypes and estimated that the actual gross floor area per floor is 2% larger than the Plan gross floor area due to bay windows and/or recessed window. (See Table D.1, Appendix D.) Therefore, to equate the FAR calculated by the proposed Plan rules (F_1) to the FAR calculated by the existing Code rules (F), F would have to be reduced by 2% and then 1 would have to be subtracted from the result to account for the exclusion of the ground floor. That is:

$$\begin{aligned}
& F_1=(F-2\% \text{ of } F)-1 \\
\text{or}\quad & F_1=0.98F-1 \\
\text{or}\quad & 0.98F=F_1+1 \\
\text{or}\quad & F=\frac{F_1+1}{0.98} \\
\text{or}\quad & F=\frac{1}{0.98} \times (F_1+1) \\
\text{or}\quad & F=1.02 \times (F_1+1)
\end{aligned}$$

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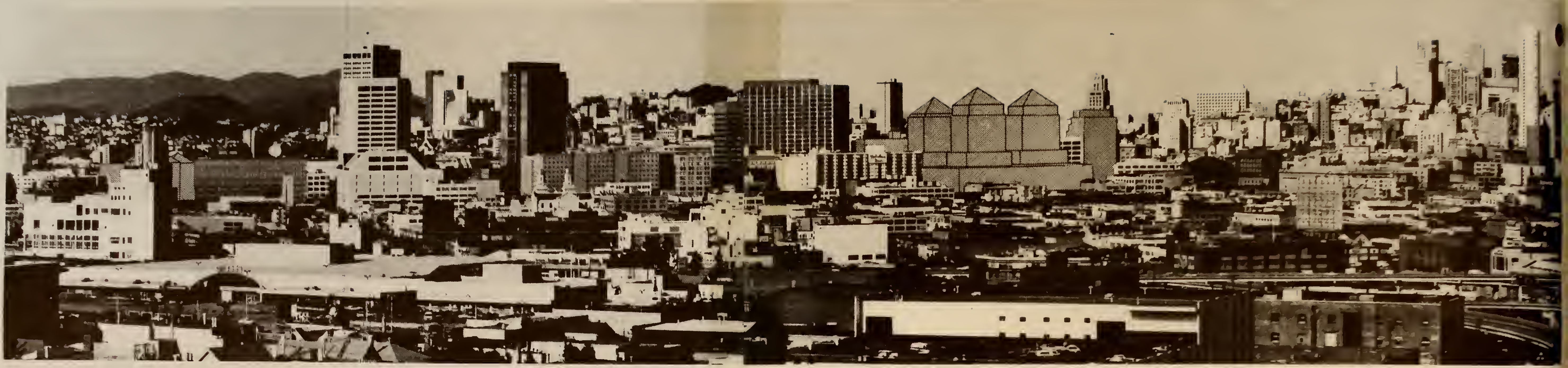

NOTES:

-See Figure IV.H.8 for a reference KEY to selected existing buildings and buildings to be completed by 199

-YBC Redevelopment projects are shown in dark tone.

The skyline image of Rincon Hill shows full buildout of the Rincon Hill Plan (outlined in black) and cannot be directly compared to the skyline image of the downtown which is for the year 2000 and does not show full buildout. As actual land use patterns have seldom developed to maximum permitted zoning in San Francisco, it would be unlikely that the maximum future development of Rincon Hill would occur as full buildout. Thus the skyline in the year 2000 would have less development on Rincon Hill than is depicted by the graphic.

I. AIR QUALITY

I.1. EIR CONTENTS

The EIR contains air quality setting, impact analyses, and mitigation measures. Carbon monoxide (CO) is one of the pollutants analyzed. Air quality impacts that would occur due to development under the Downtown Plan and each alternative are included in the EIR. The air quality analysis is based on changing residential patterns (see the EIR, Table O.1, Appendix O).

I.2. HEALTH EFFECTS

The Bay Area Air Quality Management District Air Quality Handbook 1983-1984 contains information about health effects of air pollution including the following on page 17: "Air pollution does affect human health. However, it is difficult to isolate its effects from other causes and determine the precise degree of harm it causes. A United States Public Health Service publication states... 'air pollution, as it exists in some of our communities, contributes significantly as a cause or aggravation factor for the following medical conditions: acute respiratory infections, chronic bronchitis, chronic constrictive ventilatory disease, pulmonary emphysema, bronchial asthma, and lung cancer.' Medical research on the effects of air pollution is still being conducted, and many questions are as yet unanswered."

Page 19 of the Air Quality Handbook states: "Air quality standards define the amount of various types of air pollutants that draws the line between clean and dirty air. If these levels are met, eye and throat irritation--and more serious health effects--will not appear among even the most sensitive members of the public. California began setting air quality standards in 1969 under the provisions of the Mulford-Carrell Act. With the passage of the Clean Air Act amendments in 1970, the federal government began adopting standards for the entire country. Federal air quality standards are divided into two categories: primary standards, designed to protect human health, and more stringent secondary standards to protect property and aesthetics." Thus if air quality standards are met, potential adverse health effects would be off-set.

It is the responsibility of local and regional agencies to insure that air quality standards are met. Under the Downtown Plan, sulfur dioxide, and ozone concentrations would meet the state and federal standards. Nitrogen oxides (NOx) emissions would decrease under the Downtown Plan although NOx emissions could increase in the Bay Area. Increased emissions would not result in violations to NO_2 standards (see Response I.8). Due to increased area-wide traffic volumes, annual average total suspended particulate (TSP) concentrations would increase about 7 percent from 1984-2000 under the Downtown Plan. This could result in an increase in the frequency of violations of standards. CO would meet one-hour standards, but could be in violation of the eight-hour standards (see Response I.4.) Mitigation measures which could be implemented for TSP and CO are discussed in Response I.7.

As local CO calculations are for curbsides, potential adverse health effects on pedestrians would be lessened under the Downtown Plan. However, it is possible that people within vehicles would be subject to CO levels in violation of standards which could result in adverse health effects.

I.3. 1982 BAY AREA AIR QUALITY PLAN

According to Tom Perardi (Research and Planning Section Manager, BAAQMD), the effects of San Francisco emissions on regional ozone levels could be estimated by comparison with existing photochemical modeling results presented in the 1982 Bay Area Air Quality Plan. Within the constraints of this EIR, one could estimate emissions of hydrocarbons (HC) and NOx under the various development alternatives, and then, by applying the sensitivity coefficients developed by previous Livermore Regional Air Quality (LIRAQ) model runs (for the 1982 Air Quality Plan), estimate the effects of such emissions on the regional ozone concentration. The indirect effects of the various development alternatives, caused by the changes to regional growth rates and traffic levels which development in downtown San Francisco would affect, could not be determined without recalculating the entire regional emission inventory and performing additional LIRAQ runs (at a cost of about $100,000). Short of this, it would not be possible to compare downtown emissions estimates from this EIR with those calculated for the Air Quality Plan, because the assumptions and methods of analysis are different.

Emissions from growth assumptions which were included in the Air Quality Plan have been double-counted with the downtown development-related emissions projected by this EIR as there was no practical method to reconcile differing study area boundaries (e.g. Census tracts compared to C-3 District boundaries) or years which were studied (e.g., 1987 compared to 1990). Because the difference between the projections is not known, and because it is likely that the Air Quality Plan projection would be less as it projects fewer employees, all of the growth resulting from the Downtown Plan was assumed to be growth not projected in the 1982 Air Quality Plan. Thus the Downtown Plan EIR presents a worst-case analysis.

In Response to comments, the CO analysis for the EIR was modified (see Response I.4) resulting in the following text changes.

Page IV.I.11, paragraph one, sentence four, should be amended as follows:

> "In any case, emissions associated with downtown development under the Downtown Plan are not projected by this EIR to increase ozone concentrations (see below), and thus would not conflict with the objectives of the 1982 Bay Area Air Quality Plan regarding ozone."

Page IV.I.11, after the first paragraph an additional paragraph should be inserted as follows:

> "Emissions associated with downtown development under the Downtown Plan are projected by this EIR to result in an excess of the eight-hour CO standard at one location both in 1990 and 2000 (see below). However, the model used to make these projections might not be accurate to within the percentages of the excesses. Therefore, until additional CO "hot spot" monitoring is performed to validate the model projections, a determination of whether downtown

> development would conflict with the objectives of the 1982 Bay Area Air Quality Plan regarding CO cannot be made."

Page VII.I.1, paragraph one, sentence one should be replaced as follows:

> "The Downtown Plan and all the Alternatives would not directly conflict with the 1982 Bay Area Air Quality Plan's hydrocarbon and carbon monoxide emission control strategies, nor would they conflict with the Air Quality Plan's objectives of attaining the federal ozone standard. A determination of whether downtown development under the Downtown Plan or under any of the Alternatives would conflict with the Air Quality Plan's objectives of attaining the federal carbon monoxide standards cannot be made until additional CO "hot spot" monitoring is performed to validate model projections."

I.4. CARBON MONOXIDE

Table IV.I.3 on page IV.I.16 in the EIR includes the locations of the eleven referenced intersections and indicates the CO levels by year. CO was modeled and not monitored at the intersections. These intersections are representative of the downtown, and are not meant to include all intersections in violation of CO standards.

The eleven intersections were selected as representative of the downtown and include intersections with worst-case traffic conditions. The proximity of idling vehicles, volume of idling vehicles and microclimatic conditions are factors which relate to CO levels. Without modeling every intersection downtown, it was not possible to insure that the intersections with worst-case CO levels were included in the EIR. During the environmental review for specific projects, additional intersections will be modeled. If any of these projects would result in or contribute to violations to CO standards in 1990 or 2000, that project could be subject to redesign and additional mitigation measures. A determination of whether any ofthe intersections would result in violations of CO standards cannot be made until additional "hot spot" monitoring is performed to validate the model projections. If the CO analysis is validated or subsequently revised and CO standards would still be violated, the project could not be approved unless the City Planning Commission were to make findings of overriding considerations.

In response to comments, the CO anaylsis for the EIR was modified resulting in EIR text changes.

Page I.1.2, full paragraph one, sentence two should be replaced as follows:

> "Thus CO concentrations at the 11 selected intersections in the downtown study area (analyzed with the Modified Linear Rollback method) would decrease from 1984 to 1990 and thereafter to 2000. CO concentrations at 10 of the 11 intersections would be within the state and federal standards in 1990 and in 2000 under the Downtown Plan. CO concentrations at one intersection would continue to exceed the state and federal eight-hour standards both in 1990 and in 2000 under the Downtown Plan.

P.IV.I.8, paragraph three, sentence two should be amended as follows:

> "Using a further-modified version of MLR, that was developed by two San Francisco EIR consultants in association with the BAAQMD and the City,/8/ and the results of growth analyses for downtown San Francisco presented herein,..."

Page IV.I.8, paragraph three, sentence four, "four" should be replaced with "10."

P.IV.I.15, paragraph two, sentence three, should be amended as follows:

> "CO concentrations in 1990 and 2000 at 11 selected intersections in the downtown study area (where CO concentrations would be expected to be relatively high) under the Downtown Plan were projected using a version of Modified Linear Rollback (MLR) (see Setting, P.IV.I.8)."

Page IV.I.15, paragraph four, sentence three, "74%" should be replaced with 79%."

Page IV.I.15, paragraph five, line three, "four" and "zero" should be replaced with "ten" and "one" respectively."

Page IV.I.15, paragraph five, two sentences should be inserted at the end of the paragraph as follows:

> "The intersection of Brannan and Sixth Streets is projected to exceed the eight-hour standard by about 11% in 1990. However, the model might not be accurate to within that percentage."

Page IV.I.17, paragraph one, after sentence one, an additional sentence should be inserted as follows:

> "Average traffic speed would decrease by one mile per hour from 1990 and by two miles per hour from 1984."

Page IV.I.17, paragraph one, line five, "88%" and "65%" should be replaced with "94%" and "75%" respectively.

Page IV.I.17, paragraph two, sentence two should be replaced as follows:

> "The number of intersections experiencing CO standard excesses is projected to decrease from ten in 1984 to one in 1990 and in 2000 (see Table IV.I.3). The intersection of Brannan and Sixth Streets is projected to exceed the eight-hour standard by about 2% in 2000. However, the model is not accurate to within that percentage."

P.VII.I.5, full paragraph one, sentence two should be replaced as follows:

> "CO concentrations at the 11 selected intersections in the downtown study area (analyzed with the Modified Linear Rollback method) would decrease from 1984 to 1990 and thereafter to 2000. CO concentrations at 10 of the 11 intersections would be within the state and federal standards in 1990 and in 2000 under the Downtown Plan. CO concentrations at one intersection would continue to exceed the state

and federal eight-hour standards both in 1990 and in 2000 under the Downtown Plan.

P.VII.I.5, full paragraph two, the last sentence should be replaced as follows:

> "Thus, CO concentrations at 10 of the 11 selected intersections would be within the state and federal standards under any of the Alternatives, and concentrations at one intersection, Brannan and Sixth Streets would continue to exceed the state and federal eight-hour standard both in 1990 and in 2000 under any of the Alternatives."

CO concentrations in urban areas consist of a constant, areawide background level, with microscale peaks superimposed by local sources. The background concentration is a function of areawide traffic volumes, while the local concentration is a function of traffic volumes at the location of interest (usually, heavily-traveled intersections). Modified Linear Rollback (MLR) is based on the assumption that ambient concentrations of CO are directly proportional to emissions. CO levels at a given intersection are estimated by separately adjusting the local and background concentrations measured at some reference point so that they reflect the differences in the local and areawide CO emissions between the given intersection and the reference point. The reference points used in the Downtown Plan EIR for these proportional adjustments are the highest one-hour and eight-hour CO concentrations measured by the BAAQMD's "hotspot" monitor, located near the Geary/Taylor intersection during the winter of 1981.

For the CO analysis Modified Linear Rollback models traffic congestion based on traffic volumes developed for the EIR. Local CO emissions at signalized urban intersections have three components: first, the CO emitted from all vehicles as they move freely through the intersection at mid-block speed (i.e., free-flow emissions); second, the excess CO emitted from vehicles as they slow down from mid-block speed in preparation to stop and then return to mid-block speed on the other side of the intersection (i.e., acceleration-deceleration emissions); and third, CO emissions from vehicles idling in a queue while stopped (i.e., idle emissions).

Because of the threefold nature of this local CO emissions inventory, MLR is able to model the effects of traffic congestion on air quality. As the traffic increases, the number of vehicle accelerations-decelerations and the number of vehicles idling at intersections also increases, contributing to higher CO levels there. In response to comments, the revised version of MLR developed by ABAG, has been further revised for this EIR, and an upper limit of seven vehicles per traffic lane was placed on the length of the queue at each approach of the intersection. Vehicles more than seven car-lengths from an intersection were determined not to affect the local CO component, only the background. Local CO emissions are estimated in this way for the Geary/Taylor intersection in 1981, and for selected intersections in Downtown San Francisco for all development scenarios. The ratios of these emissions are then used in MLR.

MLR analyzes worst-case impacts for local CO emissions by assuming average free flow vehicle speeds for 1984 of 22 mph and 25 mph, and average acceleration-deceleration vehicle speeds of 11 mph and 12.5 mph for a distance of about 172 feet, during the peak hour and peak eight-hour period, respectively. The free flow vehicle speeds would drop by one mph from 1984 to 1990, and would drop an additional mph from 1990 to 2000. The acceleration-deceleration speeds would be one half of the free flow speeds.

For areawide CO emission ratios, accurate estimates of the average trip length per vehicle in the downtown area and the number of vehicles travelling the downtown area during the time period of interest (i.e., peak hour or peak eight-hours) were difficult to obtain. It was assumed that the average trip length per vehicle would remain approximately constant over the years, making that ratio approximately equal to one. In order to calculate the number of vehicles traveling the downtown area during the time period of interest, it was assumed that the ratio was approximately equal to the ratio of the number of vehicles crossing a cordon around the downtown area in 1981 to the number of vehicles crossing the same cordon in year "x". These cordon counts were obtained from the EIR traffic study.

The following areawide CO emission ratios were calculated for the different scenarios analyzed in the EIR:

Reference (1981)	1.0000
Existing (1984)	0.8247
Future (1990)	0.6457
Downtown Plan (2000)	0.5974
Alternative One (2000)	0.6135

Using these ratios, the following background concentrations were obtained:

Reference (1981)	1-hr. - 9.0 ppm
	8-hr. - 6.9 ppm
Existing (1984)	1-hr. - 7.4 ppm
	8-hr. - 5.7 ppm
Future (1990)	1-hr. - 6.0 ppm
	8-hr. - 4.5 ppm
Downtown Plan (2000)	1-hr. - 5.7 ppm
	8-hr. - 4.1 ppm
Alternative One (2000)	1-hr. - 5.8 ppm
	8-hr. - 4.2 ppm

CO emissions are the only emissions generated relating directly to traffic. Table IV.I.3 in the EIR contains the projected CO concentrations at eleven selected intersections in the downtown. This table has been recalculated (below) to reflect the revised traffic assumptions and should replace the table in the EIR. Background components (above) may be subtracted from the CO totals on this table to ascertain local CO components at each intersection for each year.

The background CO analysis is based on traffic, and varies by volume and speed. For the eight-hour peak period for the Downtown Plan and the Alternatives, an 18-mph vehicle speed was assumed for 1984, 17-mph for 1990, and 16-mph for 2000. For the one-hour peak a 15-mph vehicle speed was assumed for 1984, 14 mph for 1990, and 13 mph for 1984. It is the opinion of the

Department of City Planning and the Department of Public Works that these vehicle speeds would be reasonable assumptions for travel on city streets and would under-estimate vehicle speeds on freeways.

Further details, including the mathematical formulas which are too technical to be understood by the lay reader, are not included in the appendices.

Page IV.I.10, paragraph two, end of sentence one, the note number should be changed from "8" to "9".

Page IV.I.19, a new note should be inserted after Note 7 as follows:

> "/8/ A description of this version of MLR is contained in a memo by the Consultant, dated August 31, 1984, which is on file and available for public review at the Department of City Planning, 450 McAllister Street, fifth floor.

Page IV.I.19, Note "8" should be changed to become Note "9".

I.5. OZONE AND ORGANIC COMPOUNDS

The 1982 Air Quality Plan does not discuss whether ozone standards will be met in the year 2000. However, the BAAQMD expects the Bay Area to attain ozone standards by 1987 and to maintain compliance with ozone standards thereafter.

In San Francisco 48 tons of organic compounds from direct (point) sources were emitted into the air in 1982. Each point source is subject to BAAQMD regulations on specific pollutants, and emissions controls are required on most point sources. The level of control is determined in the permitting process by size and type of equipment. The BAAQMD does not limit the tons of total pollutants compounds per year. The 48 tons of emitted organic compounds is the tonnage with required emissions control and does not indicate that limits are exceeded.

The BAAQMD controls construction and operation of industrial uses and regulates air emissions to established levels based on health and safety concerns. Compliance of each industrial source is determined through a yearly inspection-program.

TABLE IV.1.3: EXISTING AND PROJECTED WORST-CASE CURBSIDE CARBON MONOXIDE CONCENTRATIONS, AT SELECTED INTERSECTIONS IN THE DOWNTOWN STUDY AREA, 1984, 1990, AND 2000 UNDER THE DOWNTOWN PLAN (parts per million)

		Concentrations (a)		
Intersection	Averaging Time	1984	1990	Downtown Plan 2000
Battery and Washington	1-hour	12.7	9.8	9.0
	8-hour	9.3	7.1	6.5
Battery and Clay	1-hour	13.0	10.0	9.2
	8-hour	10.3	7.9	7.1
Beale and Mission	1-hour	13.4	10.1	8.6
	8-hour	9.8	7.5	7.0
Brannan and Sixth	1-hour	18.1	11.8	10.9
	8-hour	13.4	10.0	9.2
Bryant and Second	1-hour	11.6	9.0	8.6
	8-hour	9.3	7.1	6.7
California and Montgomery	1-hour	12.0	9.0	8.5
	8-hour	9.8	7.4	6.7
First and Mission	1-hour	12.4	9.6	9.0
	8-hour	9.7	7.4	6.8
First and Harrison	1-hour	10.9	8.5	8.1
	8-hour	8.4	6.5	6.1
Howard and New Montgomery	1-hour	12.6	9.8	9.2
	8-hour	9.4	7.2	6.7
Market and Third	1-hour	12.2	9.3	8.6
	8-hour	10.2	7.7	7.0
Stockton and Sutter	1-hour	12.0	8.8	8.6
	8-hour	9.4	7.2	6.6

(a) The tabulated concentrations are the sum of a background component, which is influenced by the cumulative effects of all vehicular traffic in the project vicinity, and a local component, which reflects the effects of vehicular traffic at the intersection of interest. Both components were calculated by the Modified Linear Rollback (MLR) method. A full description of MLR can be found in ABAG Air Quality Technical Memo 43, January 1983, and in the Consultant's memos on MLR, August 31, 1984. Concentrations are in parts per million. Underlined values are in excess of the state or federal CO standards. The one-hour state standard is 20 ppm; the one-hour federal standard is 35 ppm; the eight-hour state and federal standard is 9 ppm.

SOURCE: Environmental Science Associates

I.6. ACID RAIN

One commenter referenced an April 1984 San Francisco Chronicle article on acid rain. In response to his comments, this article stated that California is suffering from acid rain, and that the National Wildlife Federation said "the Sierra Nevada is the State's most vulnerable area because of its shallow soil and large volume of precipitation." The article did not state that there is acid rain in the Sierra Nevada.

Another commenter referenced the December 1982 'Public Affairs Report' of the Institute of Governmental Studies, University of California, Berkeley. This article, which is more technical than the April 1984 San Francisco Chronicle article, also concludes that acid rain has been monitored in California; it does not conclude that there is acid rain in the Sierra Nevada. This article states that the greatest threats to Sierra lakes are loss of buffering capacity and toxic effects of increased acidity.

In "Facts About Acid Rain," a 1983 California Air Resources Board publication, acid rain has been monitored in Southern California at Mammoth and Sequoia National Park.

The EIR predicts increases in NOx (see Response I.8 for further discussion of NOx). Page 7 of the BAAQMD Air Quality Handbook, 1983-1984 states: "Since the emission of sulfur oxides is considerably lower in California than in other parts of the world, the primary source of acid rainfall is nitric acid resulting from emissions from automobiles. California measurements have shown periods of acidic rain in the initial periods of storms, but thus far no long range transport to the vulnerable mountain lakes has been established." In addition, analytical methods are not yet available to accurately model this situation. As methodologies become available, they could be used to analyze San Francisco's contribution to acid rain.

I.7. MITIGATION MEASURES

The costs of removing emissions cannot be ascertained, as it is impossible with current technology to remove emissions from the air. The only air quality mitigation measures available are those which prevent emissions.

The approach used by ABAG, BAAQMD, and MTC in developing the Bay Area Air Quality Plan established pollution-reduction strategies which would reduce future pollutant emissions generated from existing and projected inventory of all types of pollutant sources, in the most cost-effective way possible, given the political constraints of the region. The agencies identified potential air quality control measures, and estimated the potential amount of pollutants which would not be emitted, and the cost (where identifiable) in dollars per pound of pollutant for each measure.

As the revised CO air quality analysis in Section I.4 above indicates, the decreased emission rates from a cleaner vehicle fleet may not off-set emissions from increased traffic congestion for all intersections in the future. CO, TSP and other emissions have been calculated using worst-case circumstances by assuming that no transportation mitigation measures would be implemented. Transportation mitigation measures could be implemented as could an additional mitigation measure directed specifically at CO. This measure should be added after mitigation measure four on page V.I.2 in the EIR as follows:

> "5. Request the BAAQMD to install CO "hot spot" monitors and traffic counters at locations projected to exceed CO standards (such as Brannan and Sixth Streets), to validate the current MLR model's projections. Following such a validation, if any locations still are projected to exceed CO standards after 1987, the BAAQMD, ABAG, and

> MTC would be required by federal law to develop a CO control plan for San Francisco, to attain the standards by 1987 and maintain them thereafter. Such a planning effort should be conducted in association with the City and County of San Francisco.

Although it may not be necessary to place constraints on future levels of development due to CO air quality concerns, one mitigation measure has been proposed for the EIR which would tie development capacity to implementation of mitigation measures including transportation measures (see Section P.2). Additional transportation measures which would reduce CO, TSP, and other emissions have been recommended for inclusion in the EIR (see Section E.6).

I.8. STAFF-INITIATED TEXT CHANGES

Page I.1.2, full paragraph three, sentence three should be amended as follows:

> "NOx emissions (and increased formation of acid rain downwind) would increase in the Bay Area by about five percent from 1984 to 2000."

Page I.8, full paragraph three, sentence three should be amended as follows:

> "All six alternatives could lead to increased frequency of violations of total suspended particulates in San Francisco."

Page IV.I.14, paragraph three, should be amended to read as follows:

> "However, excess cumulative emission in the Bay Area could increase ozone and/or nitrogenous oxidant concentrations outside the Bay Area."

Page IV.I.15, paragraph one should be amended as follows:

> "However, as in 1990, excess cumulative emissions in the Bay Area could increase ozone and/or nitrogenous oxidant concentrations outside the Bay Area."

Page IV.I.18, full paragraph two, sentences three and four should be replaced with the following:

> "NOx emissions would decrease in San Francisco by about two percent from 1984-2000 but would increase in the Bay Area by about five percent from 1984-2000."

Page IV.I.18, full paragraph three, sentence three should be amended as follows:

> "Incremental NOx emissions generated by the project and by cumulative development throughout the Bay Area could increase acid rain further downwind, outside the Bay Area, to a relatively small extent due to the magnitude of the increase and to dilution over time and distance."

Page IV.I.19, note four, 'July 1982' should be replaced with 'December 1982'.

Page VI.1, paragraph two, line three should be amended as follows:

> "...violations to air quality standards (total suspended particulates), with..."

Page VII.1.6, full paragraph two, sentence three should be amended as follows:

> "NOx emissions would increase in the Bay Area by about five percent from 1984-2000, and could increase acid rain further downwind, outside the Bay Area, to a relatively small extent due to the magnitude of the increase and to dilution over time and distance."

Page VIII.1, paragraph two, sentences one and two should be replaced as follows:

> "Increased transportation trips from the additional development projected to occur in the C-3 District would lead to increased TSP emissions in San Francisco resulting in violations of TSP air quality standards with concomitant health effects and reduced visibility. Adoption of the Plan is appropriate now because less TSP emissions would result than if development permitted under the present Planning Code (Alternative 1) were allowed to continued."

Page IX.1, paragraph two, sentence two should be amended as follows:

> "The additional trips, plus construction activities from new development, would subject San Francisco to future air quality problems from increases in TSP emissions."

J. NOISE

The noise discussion in the EIR points out that existing noise levels in much of the C-3 District are 70 dBA or higher at street level. It is important to note that the Impacts analysis shows that future noise levels at street level would increase by 1 dBA or less by the year 2000. This increase of 1 dBA would not be noticed by most listeners. Thus, based upon the analysis in the EIR, the Downtown Plan would not cause any noticeable change in the noise environment. (The same would be generally true of the other five Alternatives analyzed in the EIR on pp. VII.J.1-4.) Although the EIR shows that noise conditions at street level would be quite loud, the Plan would not cause an appreciable increase in noise.

It is also important to be aware that the C-3 District is not primarily a residential area. Comments regarding community complaints at Ldn 60 are related to purely residential communities where the areas generally are and are expected to be quieter than a central business district such as the area which is the subject of this EIR. While it may be true that lawsuits are filed when noise levels in residential areas suddenly increase to 70 Ldn, no such suits have been filed in San Francisco concerning the existing 70 dBA Ldn levels in the downtown area. A study done by Donald Appleyard (cited in a comment) of noise in San Francisco neighborhoods was done in the primarily residential areas of the City. Appleyard's study, performed in 1970, looked at a wide variety of issues related to traffic on residential city streets including pedestrian safety, noise, pollution, trash and social interaction. His conclusions noted, in part, that some people do adapt to increasing traffic noise, that a surprising number of people expressed preferences for busy streets (up to 33% of those who live on busy streets, 20% of all those surveyed), and social interactions decrease as street traffic increases./1/ This information is interesting and has been used in other San Francisco planning activities but is not directly relevant to the Downtown and its planning effort.

One comment asked that the chart presented in Figure IV.J.1, page IV.J.2 of the EIR, not be used to determine acceptability of noise environments. That chart is copied directly from the San Francisco Comprehensive Plan Environmental Protection Element and is not used either in that document or in the EIR as a means to determine human satisfaction. The chart is used in both documents as a guide for land use compatibility. The Downtown Plan and the EIR are primarily land use documents, studies of the appropriateness of various land uses for the Downtown C-3 District. The EIR is not intended to analyze individual buildings. No cites to Figure IV.J.1 use it as a determination of "human satisfaction;" all references to the Figure discuss the "compatibility" (or incompatibility) of land uses forecast to be in each subarea in the study-years of 1990 and 2000. The use of the word "satisfactory" in the chart (and on pp. IV.J.5, 6 and 7 in Setting text) is intended to mean that the land use is in a "satisfactory," i.e., a compatible noise environment, not that people are "satisfied" with the noise environment. Based on this chart, the EIR notes that certain uses permitted in the C-2 District would require noise insulation and that residential uses could be placed in an incompatible noise environment unless State noise insulation requirements (found in Cal. Admin. Code, Title 25 and implemented in DPW's Bureau of Building Inspection) are followed.

Comments suggest that noise insulation required for new residential uses may be insufficient to reduce diesel bus noise to acceptable levels for sleeping and school classes. The 95dBA noise levels from Muni buses occur only instantaneously upon initial acceleration and when climbing steep hills, and apply only to the older diesel buses. The passage every 3 minutes cited in the comment (citing to EIR page IV.J.11) is during rush hours, between about 7:30-8:30 a.m. and 4:30-5:30 p.m. and describes the existing situation out-bound on the Pine Street hill (between about Kearny and Stockton Streets). As the EIR notes, this intrusive bus noise "would continue to be of concern." This is a worst case situation, as new buses must meet specifications of 83 dBA and are considerably quieter than the 95 dBA assumed. To reflect this point two changes should be to the DEIR text. The following should be added on page IV.J.4 at the end of the first sentence of the second paragraph:

> "(95 dBA would be a worst case and would apply to older buses)."

The following should be added to page IV.J.11, at the end of the first paragraph:

> "This and all other diesel bus noise information presents a worst case analysis assuming use of only older diesel buses. Newer buses must meet quieter specifications (83dBA) and thus would not be as intrusive, but would continue to be noticeable above background traffic noise."

Noise insulation that would reduce ambient levels of about 70-75 dBA to 45 dBA would reduce the 83 dBA of newer diesel buses to about 55 dBA, which, although noticeable, would not interfere as much as the 65 dBA that was suggested in a comment.

Regardless, the peak periods of 7:30-8:30 a.m. and 4:00-6:00 p.m. are not usually sleep or school times. Thus, most sleep and school activities do not and would not experience the intrusive noise described in the EIR as ongoing on this segment of Pine Street or other hills with high diesel bus activity. (Note that there are, in fact, no schools along this part of Pine Street, though there are numerous residences.) There are few schools located anywhere in the C-3 District: no grade schools are located in the C-3 area; Golden Gate University is at Mission Street, and the Downtown Community College Center is at 4th and Mission. According to Gordon Lee, of the Downtown Community College center, there have been no complaints about noise from users of classrooms with windows on Mission Street (telephone conversation September 20, 1984). This is not to say that diesel bus noise would go unnoticed by residents, but that increases in these incidents would generally occur along already noisy streets and would not occur at times when most residents would be asleep.

The Municipal Railway does consider noise among the features for new buses, and is complying with Objective 1 Policy 1 of the Transportation Noise Control portion of the Comprehensive Plan, contrary to suggestions received in a comment. The quieter diesel buses generally available have not been able to meet Muni's needs to carry heavy passenger loads up San Francisco's steep hills. (The Grumann buses purchased four years ago were very quiet but only about 3 were operational in August of 1984.) Electrification has been accomplished on some of the most heavily traveled lines that are on hills (e.g. the 1 California replaced the 55 Sacramento line on Sacramento and Clay Streets); this reduces noise levels substantially. Present specifications require that both regular and articulated diesel buses comply with the standards of SAE J.366 under full throttle, which will result in noise levels of 83 dBA or lower (Contracts 328, Sec. 2522 and 337 Sec. 2522). The new buses must also be able to attain speeds of 8 mph going up a 20% grade (regular buses) or 7 mph on a 16% grade (articulated) while meeting the noise standard, along with meeting many other requirements for speed, size, doors, lifts, etc. Thus, while noise may not have been considered in purchasing many of the buses now in use, it is one of the parameters in present contracts, in conformity with Objective 1, Policy 3 of the Comprehensive Plan's Noise Control section./2/

One comment suggests that the statement in the EIR that "...differences in environmental noise levels of less than 3 dBA are not detectable to the human ear." (Note 1, p. VII.J.4) is in error. In order to clarify the point intended in the EIR, Note 1 on page VII.J.4 should be changed to read:

> /1/ "An increase of less than 3 dBA should not be noticeable to most people, particularly in the already noisy downtown environment (see Setting, pp. IV.J.4-8)."

Case studies have shown that a community will not perceive a change of less than 3 dBA, although some individuals can just barely discern changes in traffic noise as little as 1 dBA when traffic noise is presented in a laboratory setting./3/ This is probably because in the normal living situation, particularly in a central business district, there is generally some kind of other background noise in addition to traffic noise, such as building ventilation systems, people talking, radios, TV, etc. whereas in a laboratory there is little distraction and the main focus is on listening to the noise presented. Since noise level increases are estimated to be about 1 dBA--considerably less than 3 dBA--it is not expected that the increases would be noticeable to most people in the area.

One comment raised questions about noise from increased truck traffic resulting from more retail and hotel uses downtown. The traffic analysis generally accounted for additional truck traffic as part of the projections of future peak period traffic at screenlines but did not make separate special calculations for such traffic. There would be increases in retail and hotel uses ranging from 10-18%, depending on the Alternative studied; these increases would occur over a 16-year period. This rather small increase in space would occur gradually, and delivery traffic to these uses would grow at the same or slower rates. This increase was taken into account in the traffic analysis. In proportion to existing traffic and to projected increases in traffic, the change in truck traffic was not assessed to be substantial in this already commercial district. It should be noted that truck traffic has been a declining percentage of the total vehicular traffic in downtown

San Francisco. The most recent count (1983) showed truck traffic to be about 3% of the total traffic (6.00 a.m. to 7:00 p.m.)./4/ Thus, even it were to be assumed that delivery truck traffic would increase in direct proportion to space added (not likely, as some trucks would simply increase their length of stay in downtown as they delivered to two nearby retail uses in the future instead of one today), the increase would be 1 to 18% of 3% of the total traffic. This is a relatively minor increase for delivery vehicles, which in the downtown area are most often small trucks such as the Stepvans (like the UPS vehicles) or ordinary vans, neither of which are substantially louder than an automobile.

As noted in a comment, Average Daily Traffic (ADT) is part of the base data required in the Highway Traffic Noise Prediction Model cited in Table IV.J.2 in order to calculate Ldn. ADT information was not presented in the Transportation text of the EIR; that analysis studies the p.m. peak hours and periods as the worst case situation. The peak information was converted to average daytime and nighttime traffic to obtain the ADT values necessary to prepare the noise calculations. This data is available for review in Department files at 450 McAllister Street by appointment. It was too detailed to be included in the text of an already rather lengthy EIR.

The noise mitigation discussion in the EIR is not merely a repeat of Master Plan Objectives and Policies as suggested in a comment but is a list of measures that could reduce exposure to downtown noise levels in response to those Objectives and Policies. Objective 1, Policy 1, regarding vehicular noise emission standards, is a policy that could be handled best by State or Federal regulations rather than local mitigation measures; an implementation action to be carried out by local governments therefore was not included in the EIR mitigation section for that policy. As noted above, diesel bus purchase by Muni does comply with Master Plan policies. In addition, the City program for expanding the electric trolley network and electrifying some routes that presently use diesel buses would reduce street noise./2/ The San Francisco Police Department includes noise specifications as one of its criterion in purchasing vehicles./5/ In general, the City's transit-first policy is designed to limit increases in auto use by commuters to downtown; one result is to limit increases in vehicular noise in the downtown area. Encouraging residential uses near downtown also helps to limit auto use by commuters, further limiting traffic noise during peak commuter periods. All of these examples of ways the City is attempting to attain the Objective of Transporation Noise Control.

The San Francisco Police Department staff includes a Noise Abatement officer assigned to its Traffic Division. This officer enforces City noise control ordinances and State noise regulations. Officer William Arietta patrols the City and responds to complaints about fixed and vehicular noise. He is authorized to and does cite vehicles for noise exhaust violations, writing about 1000 citations per year. Complaints involving delivery of trucks or Muni buses generally are handled by telephone calls to the related firm or to Muni, with cooperation in correcting the violation usually accomplished. If the violation continues, Office Arietta will await the vehicle at the complaint location and issue a citation. Motorcycle officers were, in the past, assigned to vehicle noise abatement for two hours per day. This assignment has been changed such that citations may be issued at any time of day but there is no particular time set aside to concentrate on vehicle noise violations. About 2000-3000 vehicle noise citations are issued annually by motorcycle officers./5/ It is possible that a return to the 2-hour-per-day noise assignment would reduce the number of individual noise incidents in the C-3 District and elsewhere in the City. However, it is less likely to reduce overall ambient noise levels, already high in most of Downtown.

A comment asked how much Noise Mitigation Measure #1 would reduce noise levels (Measure #1 on page V.J.2 suggests keeping streets as smooth as possible). HUD and FHWA (U.S. Dept. of Housing and Urban Development and Federal Highway Administration) in their measurements and prediction methods for traffic noise have found that rough-surface roads can create up to a 5 dBA increase in noise levels.

NOTES - Noise

/1/ Donald Appleyard, Liveable Urban Streets: Managing Auto Traffic in Neighborhoods, U.S. Dept. of Transportation, Fed.Hwy.Admin., Jan., 1976.

/2/ This information was supplied by Peter Straus, Chief, Muni Planning, and Robert Highfill, Muni Engineering, personal communication and telephone conversations, August 7 and 8, 1984.

/3/ National Academy of Sciences, Highway Research Board, Research Report No. 117 (1971). Page 19 of that report states:

> "The clear consequence of a philosophy that permits each new noise intrusion to equal the existing noise environment is, of course, an upward creep of the environmental noise levels in 3-dB steps. Although such a situation is not particularly desirable, the process many not elicit too much response from the affected communities--until, of course, such time as the environment becomes unacceptable from the viewpoint of interference or general annoyance." (Emphasis added.)

/4/ 1983 San Francisco Cordon Count, JHK and Associates, July, 1983. This study covered the greater downtown area generally bounded by the Bay (Bay Bridge), Townsend Street and Van Ness Avenue. Between 6:00 a.m. and 7:00 p.m. approximately 3% of the vehicles entering the area were 2- or 3-axle trucks (11,700 trucks out of a total of 380,400 vehicles); about 0.09% of the vehicles were 3-axle trucks, with the rest being 2-axle (p. 3-6). Many of these trucks would serve areas of the greater downtown outside the C-3 District and so would avoid C-3 District streets. Historically, the proportion of 2-axle or larger trucks has been declining. In 1947, they were 7.7% of the total traffic, in 1959 they were 4.1%, in 1965 they were 2.6% and in 1983 they were 1.8% of the total traffic (between 10:00 a.m. and 6:00 p.m.) (p. 3-30). This decline is due in large part to the decline in warehousing industries in the South of Market and Northeastern Waterfront areas; the increases in office, retail and hotel space in the C-3 District have not caused the truck traffic to increase to fill the "gap" left by these declines.

/5/ Officer William Arietta, San Francisco Police Department, telephone conversation, August 28, 1984.

K. SEISMIC SAFETY

K.1. EARTHQUAKE SHAKING

Aftershocks were incorporated into the death, damage, and injury projections of the EIR. The Federal Emergency Management Agency (FEMA), a source for some of the statistics, noted that "The main shock can be expected to be followed by large aftershocks over a period of weeks or longer. Each large aftershock would be capable of producing additional significant damage and hampering disaster assistance operations."/1/ Most aftershocks are less than the primary shock, but are still a real problem. (Following the 1906 primary shock the Majestic Theater was damaged by aftershocks three hours later. Five days later an aftershock felled a chimney, causing a death)./2/

Visual inspection would be a determining factor at the outset on whether buildings are safe after an earthquake. The stability of a building would naturally be assessed differently if it's a matter of taking things out of the buildings versus moving people back in to resume building operations. Public buildings and all damaged buildings would be inspected before reoccupancy would be allowed. Disaster plans of the State Office of Emergency Services include assistance by structural engineers and building officials in determining whether buildings are safe for reoccupancy./3/ The following language should be added to EIR page IV.K.4 as the fourth paragraph:

> "There would be danger from aftershocks following the primary shock of an earthquake. While aftershocks are generally lower in intensity, they impact already-weakened buildings and stressed populations. Further building damage, and deaths and injuries, can occur. Depending on reports of damage and spot field inspections, the City may order categories of buildings to be vacated until preliminary assessments of damage and vulnerability to aftershocks can be made by City engineers and volunteer structural engineers. Permission to reoccupy such buildings will depend on these assessments, and, for some buildings, on further investigations by consultants retained by owners.

Inadequate cladding connections became an issue following the Anchorage earthquake in 1964. Code standards now in effect make the fall of cladding unlikely, unless there is poor workmanship and inadequate inspections./4/ The danger to pedestrians from falling building cladding and glass is also discussed on page IV.K.12.

Glazing is less secure. The trend towards limber, steel-frame buildings results in buildings which can sway during an earthquake. This sway can distort window frames out of their rectangular shape. Glass is not similarly flexible, and if there is inadequate clearance between the rectangular glass pane and the suddenly non-rectangular, skewed window frame, the glass will pop out. The San Francisco Building Code as of January 2, 1984 requires clearance between the glass and window frame, with retaining lips to hold the glass in place. Yet while a design may be adequate, installation is critical to actually achieving the clearance required. The City has no present ability to inspect glass installation./4,5/ There is no record of any fatalities caused by falling glass in an earthquake. The danger may be more a theoretical than an actual concern, as designing to meet building deflection caused by wind may be the governing factor rather than earthquake swaying./5A/

Any falling cladding or glass is dangerous. Cladding is likely to fall straight downward. Glass is dynamically unstable in falling straight downward - it floats and slips through the air. While new buildings present a danger of falling materials, old buildings present a danger of both falling materials, falling walls and structural collapse. New buildings do expose greater population densities to earthquake dangers. Generally, the newer the building the less likely it is to collapse. See Response K.4 for further discussion of building collapse or burning. (In comparing the risk of old buildings to new buildings when the population is increased, it must be recognized that an unlimited number of people are safe in an open field - or alternatively, in an earthquake-secure building.)

Buildings under construction, and their construction workers, are exposed to greater earthquake danger than others. The skeletal building is not unsafe, as beams, girders and columns are tightened as the structure is raised, and there is less building mass to support./4/ However, there are loose materials which can fall on workers or pedestrians below. Securing all aspects of construction while work is underway could add substantially to the construction period. Materials raised aloft would have to be fastened securely until used, and then freed for use. The trade-off is risk versus completing a building rapidly. Contractors are required to provide overnight stability. Construction workers above ground level are required by the California Occupational Safety and Health Administration to wear safety belts and attached lifelines when there is a fall of over 15' to the floor below./6/ The bottom one to three stories of buildings under construction are not insulated, in order to prevent damage to the coating material. A severe fire below at that time could cause serious damage or building failure, although with the building being open, the heat would dissipate quickly./7/ It should be noted that the construction period for any one building is a very small interval compared to the building's total life exposure to earthquake. The following language should be added to the third paragraph on EIR page IV.K.4.

> "Buildings under construction would face particular danger, due to the unfinished state of fire insulation and unsecured materials above ground level."

In response to comments on ground failures, the following language should be added to EIR page IV.K.4.

> "Historic information on ground failures in San Francisco is provided in United States Geological Survey Professional Paper 993, "Historic Ground Failures in Northern California Associated with Earthquakes." Many such failures occurred easterly of Montgomery Street, north of Rincon Point, and between 4th and 8th Streets. There are about 20 such locations, as identified on Plate 3 of that Paper. Ground failure can result from both ground shaking, and from subsidence or liquefaction (discussed in next section). The Bureau of Building Inspection maintains an index map for soils reports prepared for building permit applications (these may be reviewed between 8:00 - 10:00 a.m. and 3:00-6:00 p.m. at their 450 McAllister Street, 2nd floor offices)."

In response to comments on buildings battering one another as they sway during earthquakes, the Bureau of Building Inspection has reviewed various reference sources, including monographs on the Managua 1972 and Campania-Basilicata 1980 earthquakes, and consulted with experts in seismology. They have concluded that this pounding can cause cosmetic danger but is not a serious seismic issue likely to cause building collapse./4/ The following language should be added on EIR page IV.K.4.

> "Adjacent buildings that sway with different periods may batter one another during earthquakes. Potential damage is lessened if the floors of adjacent buildings more or less match up with one another. Cladding and glazing may be knocked off the buildings, and people inside shaken and knocked about more than otherwise. There is a lack of historical information about this./8A/

New Note 8A is:

> "Seismic Investigation and Hazards Survey Advisory Committee, City and County of San Francisco, meeting of July 2, 1984. The Uniform Building Code in Section 2312(h) calls for separation between buildings, so that any swaying does not cause adjacent buildings to make contact. The Bureau of Building Inspection has interpreted that requirement to apply when pounding would likely cause structural damage to buildings. Historically, there is only one known instance where pounding has created an overstressed condition of any building structural component. In all other instances damage has been mainly cosmetic. Any falling exterior cladding or glass is most likely to fall into the space between two buildings if such battering occurs. Given the infrequency of major earthquakes, the Bureau has not enforced this condition just to preclude cosmetic damage (based on conversation with Frank Lew, Deputy Superintendent of the Bureau of Building Inspection, July 26, and August 27, 1984)."

Additionally, information was requested specifically concerning 101 Montgomery Street. The new tower is separated on the one side from its older neighbor an increasing amount the higher they get above the ground, which should allow for some swaying without contact. A steel frame was constructed in the building on the other side of the tower and was firmly connected to the new tower to enable the buildings to sway as one.

Older, non-reinforced masonry buildings are most susceptible to earthquake damage. Many of the buildings proposed by the Downtown Plan for retention (and Transfer of Development Rights) are susceptible to earthquake damage, although older buildings may be safer than expected due to structural redundancies in their construction. (See EIR, pp.IV.K. 17-18, Footnote 14) The Bureau of Building Inspection will be proposing a program to inventory all unreinforced masonry buildings as a first step towards possible corrective action. Presently, there are Building Code requirements for seismic strengthening of buildings whenever major work is done which significantly extends a building's life./8/ Building Code Section 104 contains these requirements for upgrading existing buildings. When those standards are applicable, they provide slightly less seismic protection than new building standards. The protection is comparable to that required by the Code in the period between 1973-1984./4/

control 96% of fires. The 4% failure rate is due to water shut-off prior to the fire (vandalism, or repair operations) or a massive explosion damaging the system. Such systems are designed for earthquake resistance./9/ If an earthquake made the system inoperable, four-hour fire protection is required for building structural members in these locations, which should provide sufficient protection to prevent collapse./5/

In response to the comment on fires following an earthquake, EIR page IV.K. 8 should be amended to include the following after the third paragraph:

> "The Fire Department's emergency response capability is discussed on pages IV.F. 6-8. Particular aspects of their fire-fighting capability have been designed with earthquakes in mind, as they have been planning for this possibility since the 1906 earthquake. There would be air reconnaissance to evaluate fire-fighting priorities and determine emergency vehicle access routes, city equipment to clean streets ("Operation Bulldozer"), a city water system (Auxiliary Water Supply System, AWSS) designed with earthquakes in mind, and emergency water supply within the newer buildings to serve their sprinkler systems."/12A/

New Note 12A is:

> "This paragraph is based on an interview with Charles D. Cresci, Deputy Chief, San Francisco Fire Department, June 28, 1984."

K.3. TSUNAMI/SEICHE FLOODING, AND SUBWAY FLOODING

The EIR on page IV.K. 7 describes tsunamis, which are transient sequences of long-period sea waves generated impulsively by earthquakes, coastal or submarine landslides or volcanic phenomina. Seiches are periodic oscillations of closed or semi-closed bodies of water caused by earthquakes or landslides that disrupt the normal boundaries of lakes, bays or small oceans./16/ Seiches may more casually be described as similar to the sloshing of water in a bathtub. Effects from a seiche are similar to those of tsunamis.

The 1906 earthquake did not excite a large seiche in San Francisco Bay. The tide gauge at Fort Point near the Golden Gate showed a maximum draw-down of approximately four inches. Major earthquakes of the type that occurred in 1906 would not be expected to cause destructive seiches. Earthquake records for San Francisco and the Bay Area do not indicate a seiche would exceed the maximum probable tsunani run-up. The maximum probable seiche in San Francisco Bay would cause an estimated ten-foot run-up on either side of the Bay./16/ In response to this comment, the following language has been added to the third paragraph on page IV.K.7, and that paragraph has been retitled "Tsunamis/Seiches."

> "Seiches would have similar effects as tsunamis. Such a sloshing of San Francisco Bay waters would have a maximum probable run-up of ten feet."/11A/

New Note 11A is:

> "John A. Blume, San Francisco Seismic Safety Investigation, Tsunamis and Seiches, 1974."

Further, page I.K.1 second paragraph, last sentence has been amended to read:

> "Tsunami or seiche runup would not substantially affect downtown development, except in areas adjacent to port facilities."

The Embarcadero Seawall is unlikely to collapse during an earthquake. In fact, there are two seawalls, an inner and an outer, with the inner constructed beginning in 1867 and the outer beginning 1878. The inner wall runs between Howard Street and Pacific Avenue. They are constructed of quarry rock, and are of a massive construction which suggests that gravity would be a factor in helping reduce earthquake damage. The Seawall survived the 1906 earthquake.

In a major earthquake, the Seawall may "lurch," with large movement leaving cracks in the earth's surface behind it. Portions may fall forward, which could cause a slumping action on the Embarcadero roadway to its rear. In the event of a major earthquake liquefaction will probably occur along the San Francisco Waterfront. If there were a failure of a portion of the Seawall and simultaneous liquefaction, there could be a flow of sand into the Bay. This would follow the contour of an alluvial plane, maintaining close to its existing elevation inland and gradually descending to sea level as it approaches the Bay. This would be exacerbated if it were accompanied by wave action from a tsunami or seiche. No prediction is possible on how extensive this earth flow could be although in the worst scenario it could be several hundred feet. The inner seawall, which runs along all of the downtown area except south of Howard Street, would provide a safety factor in preventing such occurrence, as would the jumble of rock that a collapsed seawall would produce./17/ The Embarcadero Station (BART and MUNI METRO) is within about 800 feet of the Bay. It is designed to resist earthquake forces equivalent to the 1906 earthquake./18/ If there were Seawall lurching accompanied by liquefication of soils between the Seawall and the Station, the alluvial-plane contour of inland of the seawall soils following liquefaction would not affect soil levels around the Embarcadero Station./17/ It is unlikely there could be considerable or rapid intrusion of Bay waters, although some water could flow down entrance ways if wave action were severe. The subway is below sea level to about 20th Street for BART, and to within about 200 feet of the Van Ness Avenue Station for the MUNI METRO. Partial flooding could also occur through broken water mains. There are pumps in the tube and subway with auxiliary power supply, although this power conceivably could fail in a major disaster./19/ It is not possible to predict the likelihood of a chain of events leading to partial flooding of the Transbay tube and subway, nor the extent of flooding that could occur and effects on subway users. BART considers flooding of catastrophic proportions as being beyond their means to control, although its Emergency Plan in Chapters VII and IX deals with Earthquakes and Flooding, respectively./20/ In response to these Seawall and subway flooding comments, EIR page IV.K. 4 should be amended to include the following:

> "A major earthquake could cause some lurching or shaking of the Embarcadero Seawall (although it survived the 1906 earthquake undamaged)./8A/

control 96% of fires. The 4% failure rate is due to water shut-off prior to the fire (vandalism, or repair operations) or a massive explosion damaging the system. Such systems are designed for earthquake resistance./9/ If an earthquake made the system inoperable, four-hour fire protection is required for building structural members in these locations, which should provide sufficient protection to prevent collapse./5/

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> "A major earthquake could cause some lurching or shaking of the Embarcadero Seawall (although it survived the 1906 earthquake undamaged)./8A/

EIR page IV.K.6 should be amended to include the following:

> "If a portion of the Seawall collapsed due to seismic shaking and this were accompanied by liquefaction and tsunami or seiche wave action, sand could flow from behind the Seawall into the Bay. The extent of such a sand flow cannot be predicted, but in the extreme case could perhaps extend several hundred feet back from the Seawall. Seiche or tsunami wave action could cause some flooding through entrance ways of the Embarcadero Station and its BART and MUNI Metro subway./9A/

New Note 9A is:

> "Don Hillebrandt, President, Don Hillebrandt Associates (Geotechnical Engineers), telephone communication, July 26, 1984."

K.4. WORST CASE SEISMIC SITUATIONS AND TIME OF OCCURRENCE AND EXTENT OF FATALITIES, INJURIES AND PROPERTY DAMAGE FROM EARTHQUAKES

The EIR in its estimates of fatalities, injuries and death (page IV.K.1) relied upon published reports by the Federal Emergency Management Agency (FEMA),/1/ and the National Oceanic and Atmospheric Administration (NOAA)/14/ which are considered to present a worst case, or high estimate, of adverse effects./5/ They are "reasonable maximum expected conditions" (NOAA, page 4), and as with other reports cited on seismic issues represent the most current information available. Conflagration is not expected by either report (FEMA, page 22, NOAA, page 211), although three highrises are projected to burn (NOAA, pp 212-213). Impacts of a downtown conflagration have never been quantified due to its very low probability. It is noted that under the Downtown Plan about 90,000 new employees would be added to the C-3 district and exposed to this possibility, remote though it may be. Some modern multi-story buildings constructed as recently as the 1960s but not adequately designed to meet the current understanding of requirements for seismic resistance are subject to failure, and are taken into account by FEMA (page 22). The only conceivable high-rise building structural collapse is of non-ductile concrete-framed or flat plate (columns and plates, rely on inadequate shear walls) buildings, which were prohibited by the Uniform Building Code in 1973. Historically no steel-frame highrises have collapsed./5/ If collapse were to occur, assuming a 500,000 square foot building with approximately one employee for every 250 square feet, 2,000 employees would be exposed to death or serious injury. The potential for subway flooding is addressed in Response K.3.

Earthquake casualty and damage estimates were provided in the EIR on page IV.K.1, in which the range of property damage, deaths and hospitalization addressed both evening and rush hour earthquakes. In response to requests for more information, however, the following language should be substituted for the third paragraph on that page.

> "Reports of the National Oceanic Atmospheric Administration (NOAA)/10/ and the Federal Emergency Management Agency (FEMA)/6/ estimate Bay Area impacts from earthquakes of magnitude 7.5 to 8.3 on the San Andreas or Hayward Faults, for times of 2:30 a.m., 2:00 p.m.

> and 4:30 p.m. Their conclusions concerning fatalities, hospitalizations and property damage are as follows:

	Deaths	Hospitalized Injuries	Property Damage
NOAA/1/ San Andreas (Magnitude 8.3)			
2:30 a.m.	2,850	10,800	-
2:00 p.m.	9,460	34,400	-
4:30 p.m.	10,360	40,360	-
Hayward (Magnitude 8.3)			
2:30 a.m.	3,120	11,600	-
2:00 p.m.	7,200	28,500	-
4:30 p.m.	6,650	24,900	-
FEMA/2/San Andreas(Magnitude 8.3)			
2.30 a.m.	3,000	12,000	$38 billion
2:00 p.m.	10,000	37,000	" "
4:30 p.m.	11,000	44,000	" "
Hayward (Magnitude 7.4)			
2:30 a.m.	3,000	13,000	$44 billion
2:00 p.m.	12,000	30,000	" "
4:30 p.m.	14,000	27,000	" "

1 Exclusive of dam failures. The ratio of non-hospitalized injuries to deaths is 30:1. NOAA, page 121.

2 Property loss figures exclude transportation and communication facilities, dams, utility installations and special purpose structures (e.g. convention centers and sports arenas). The ratio of non-hospitalized injuries to deaths is between 15:1 and 30:1. Figures are uncertain by a possible factor of two to three. FEMA, pages 22-23.

> "Estimates for other time periods, or by day of the week, are unavailable. The high degree of uncertainty already present in the figures suggests that any further breakdowns would be very speculative."

There are no good studies on injuries from earthquakes. There is a "... total lack of any real specific injury data on earthquakes. We have sketchy data on relative numbers of injuries but no information on how a victim was injured ...."/21/ Falling objects outside buildings are likely to produce head injuries, fractures or lacerations. Within buildings injuries are likely from falling file cabinets, lighting fixtures, shelving, showcases, etc. Some people may be trampled from persons running out of buildings./22/

K.5. EMERGENCY SERVICES

The EIR on pp.IV.K.7-8 describes the City's Office of Emergency Services (OES). It states that emergency personnel are expected to be on duty within three to twelve hours after an earthquake, though some would be unable to get to their posts because of disruption of transportation facilities and injuries.

The Mayor was quoted in the April 26, 1984 San Francisco Examiner as saying "Are we prepared? The answer is no. Are we getting better prepared? The answer is, I think we are. It's very hard to sustain preparedness year after year." The OES states that San Francisco can never be fully prepared for an earthquake, but the City can be reasonably prepared, it is much further along than 4-5 years ago, and it is one of most prepared cities in the country. There are City emergency plans which call for mutual aid from jurisdictions outside the region, from areas that would not be affected by a Bay Area earthquake. There are also arrangements (and drills) for recall of emergency workers, by private ferry boats and by helicopter, with designated collection points (such as Larkspur and Jack London Square for ferry boats). While bridges may be closed to regular traffic, they likely could still be used for bringing in emergency personnel. Out-of-city residency is not considered a major factor for emergency personnel. Further, federal assistance in transporting personnel would be expected. The OES works with building operators on private emergency response plans, and maintains that large buildings have a private responsibility for their own tenants. City Planning Commission policy for several years has required coordination of such private plans with OES as a condition of approval for new construction. The OES believes that increased density downtown will not adversely affect the City's emergency preparedness, and no additional emergency services are required./23/

The adequacy of the San Francisco Fire Department (SFFD) to handle the earthquake is addressed in Response K.2. Additionally, the SFFD states they are constantly drilling, and in these drills they are confronted with real problems under hectic circumstances. They believe they have covered all bases, and thus should prove adequate in the event of a major earthquake, but will continue to practice and train to maximize their potential readiness. Their on-duty force of 315 people each day is sufficient to handle any major event. Their recall plans have been used for some large fires, and experience has been good on getting off-duty people back, no matter where they live. They believe their preparedness should not be a factor in determining whether to build, or where to build, new highrise buildings./9/

Following an earthquake, communications would be hampered, as stated in the EIR on page IV.K.6, before the last partial sentence. This would occur both because of damage to the system and a multitude of telephone calls for purposes of reassurance or curiosity. The following sentence should be added on EIR page IV.K.6.

> "The 911 emergency system is likely to experience interruption and overload after an earthquake."/7A/

Footnote 7A is:

> "Philip S. Day, Jr., Director, Mayor's Office of Emergency Services, personal communication, June 15, 1984.

K.6. EARTHQUAKE MITIGATION

A number of earthquake mitigation measures have been proposed during the public comment period. These are identified and discussed below. The suggestion was made that costs associated with all seismic mitigation measures would be helpful to decision-makers. Many of the costs would be borne by the private sector, and would be impossible to quantify at this point. Others call for study, and without a scope of work no quantification is possible. Specific suggestions and responses are indicated below.

Suggestion: The City should require exterior materials that are less hazardous when they fall from buildings, after doing a study under actual conditions to evaluate what happens when they fall, for both new buildings and for retrofitting old buildings. Heights limits should be lowered to reduce danger from falling materials. The City should do anything it can about falling building materials.

The Bureau of Building Inspection, (Robert C. Levy, Superintendent) and its Seismic Committee/5/ believe emphasis should be placed upon preventing the fall of materials from buildings, rather than trying to develop or use materials which would not be quite so destructive should they fall. The pellets formed from shattered safety glass are likely to be as hazardous as shards from other glass, and falling cladding will be extremely lethal no matter what its composition. As noted in Response K.1, experts believe building cladding is adequately attached to buildings under present Code standards. Glazing is not as adequately resolved. The following mitigation measure should be added on EIR page V.K.4.

> "The City should study the problems of building glazing during earthquakes to determine whether more stringent measures or further inspection before installation is needed to reduce earthquake risk."

Suggestion: The City Planning Commission should meet with the San Francisco Fire Department and Office of Emergency Services to ensure communication.

The Directors of the Office of Emergency Services (OES) and Department of City Planning (DCP), and the Chief of the San Francisco Fire Department (SFFD), meet jointly each week with the Mayor and other City Departments heads. The DCP develops the City's annual capital improvement plan in coordination with other City agencies, including OES and SFFD. DCP consults with the OES and SFFD in the preparation of many negative declarations and all environmental impact reports, which provides communication between these agencies for all major buildings. Inasmuch as the DCP serves the City Planning Commission as its staff, and much of the information presently obtained is provided directly to the Commission (as in the case of responding to comments on this EIR), no regular scheduling of additional meeting to ensure communication appears necessary.

Suggestion: Sewers should be self-contained within buildings, and be rat-proofed and quake-proofed to prevent plague.

It is not reasonable or feasible to have self-contained sewers within buildings, as discussed in Response F.1.3. The potential plague problem in San Francisco following an earthquake is worthy of concern. During the period 1906-08 following the 1906 earthquake, San Francisco had an epidemic of plague which resulted in 160 cases and 77 deaths. The plague remains normally endemic (or native to) wild rodents in California, including those in the San Bruno Mountains in San Mateo County. The San Francisco Health Department has a plague surveillance unit which has an ongoing monitoring programs for plague, by capturing rats and routinely analyzing for plague. The plague has not been detected for a number of years. In case of an outbreak, the Vector Biology and Control Branch of the State Department of Health would aid those in need of help due to such "vector borne" epidemics as plague./24/ The EIR should have the following added to page IV.K.8, as the last paragraph before IMPACTS.

> "Plague killed 77 persons following the 1906 earthquake. Typically the plague is native to wild rodents in such places as the San Bruno Mountains in San Mateo County. Rats have been captured and sampled in San Francisco for a number of years without showing evidence of the plague. In the event plague does occur following an earthquake, the Vector Biology and Control Branch of the State Department of Health has a program for providing aid."/12B/

New Note 12B is:

> "Paul Schwabacher, Acting Director, Bureau of Environmental Health Services, San Francisco Department of Public Health, written communication, August 16, 1984."

Suggestion: Quake-shake cut-off valves should be used on gas lines.

Quake-shake cut-off valves are valves which automatically shut off when subjected to shaking. Full usage of such valves may cause problems, as they can occasionally be set off by large trucks passing by, or other vibrations, and once set off would require resetting pilot lights, etc. For buildings with high gas delivery pressures, they may be desirable. PG&E has received several inquiries from large building sponsors, and knows of some installations. The concept is becoming more prevalent./12/ While it may be advantageous in some instances to use such cut-off valves, usage in all cases as a requirement of law does not seem warranted. The following language should be added on EIR page V.K.4.

> "Quake-shake cut-off valves could be required for all buildings with a gas delivery pressure of one pound per square inch or more."

Suggestion: The City should continue the downtown moratorium until all possible mitigation is in place.

Seismic mitigation continually changes as more is learned about the response of buildings to earthquakes and the state-of-the-art advances. Present codes requires greater seismic safety than ever before. New earthquakes result in greater understanding of how buildings are affected. While it is likely that further studies will result in further refinements or even breakthroughs in seismic safety, it is not feasible to call a halt to construction until all possible studies on seismic safety have been completed. (Note: Only office and hotel buildings with a floor area exceeding 50,000 gross square feet were affected by the "downtown moratorium," which expired August 25, 1984.)

Suggestion: The City should require that high-rise heavy interior furnishings and equipment be bolted down.

It would be desirable to bolt down heavy interior furnishings and equipment in high-rise and other buildings. During an earthquake a desk may be moving faster than a person can get under it, and book cases and file cabinets may dump materials or be overturned (See EIR, page IV.K.4). However, absent a review requirement for such furnishings, the City cannot control their placement. This would entail a permit procedure, which seems undesirable given the flexibility necessary in planning building interiors. Further, even furnishings that are bolted to walls may pull loose in a sufficiently strong earthquake. The Office of Emergency Services, in discussing emergency response plans with building owners and managers, encourages programs to bolt or otherwise attach heavy interior furnishings and equipment. This is particularly critical around doorways, which should not be blocked by falling equipment or furnishings. They also encourage bolting interior partitions to ceilings and seismically bracing dropped ceiling systems./25/

Suggestion: The City should firmly secure building materials and equipment during construction, and require safety harnesses for construction workers.

The California Occupational Safety and Health Administration requires construction workers to wear safety belts and attached lifelines when there is a fall of over 15 feet to the floor below. Firmly securing all building materials and equipment is a trade-off of risk versus completing the building quickly. See further discussion in Response K.1. Further requirements are not considered reasonable.

Suggestion: The City should require designated emergency personnel to reside within walking distance of San Francisco.

A city effort to require public safety employees to live within five miles of San Francisco's borders was invalidated by the California Superior Court on March 8, 1979 (San Francisco Police Officers Association v. City of San Francisco et al, Permanent Injunction and Order No. 721256), on the basis of the particular residency requirement (i.e. 5 miles) not being reasonable. The court did not dispute the fact that a residency requirement can promote legitimate municipal purposes and as such is constitutional, if designed so as to require employees to reside within a reasonable and specific distance of their place of employment or other designated location. If walking distance were considered a reasonable parameter, and the distance were reasonably defined (five miles was not considered reasonable), such a requirement could be legislated by the Board of Supervisors. Proximity to San Francisco would facilitate return of emergency personnel, although present recall systems may already be adequate. The following mitigation measure should be added to EIR page V.K.4.

> "Study the desirability of requiring emergency personnel to reside within walking distance of, or in greater proximity to, San Francisco."

Suggestion: The City should construct a secure, centralized emergency operations center and a comprehensive, earthquake-proof city-wide emergency communication system.

The City emergency communications system is designed for earthquakes. The following should be added as a mitigation measure on page V.K.4.

> "Investigate the feasibility of constructing a secure, centralized emergency operations center."

Suggestion: The City should acquire and maintain an emergency transportation system for emergency personnel, including helicopters and boats.

As indicated in Response K.5, the City has arrangements with private ferry boat and helicopter operators to transport emergency personnel to San Francisco. Acquiring and maintaining the City's own fleet is not necessary, and would represent a substantial financial burden with little advantage./10/

K.7. STATUTORY SECTIONS AND SEISMIC IMPACTS

Some comments, on behalf of San Franciscans for Reasonable Growth (SFRG), suggest changing Chapters VI, VIII and IX to reflect greater seismic hazards and much greater detail that has been presented in the EIR. These chapters deal with the following topics:

(VI) Significant Environmental Impacts which Cannot Be Avoided If The Proposed Project Is Implemented.
(VII) The Relationship Between Local Short-Term Uses of Man's Environment And The Maintenance And Enhancement of Long-Term Productivity.

(IX) Significant Irreversive Environmental Changes Which Would Be Involved In The Proposed Action Should It Be Implemented.

These chapters provide an overview of analyses contained within prior chapters of the EIR, and the Department of City Planning interpretation of the implications of those analyses. The specific seismic comments made on SFRG's behalf have been addressed in other responses, and the main text of the EIR amended where appropriate. Those revisions suggest the modifications to these three chapters as indicated below. The new substitute language proposed by SFRG, while representing their interpretation of the facts, analyses and desired level of detail for these sections, does not represent that of the Department, and thus would not appropriately be added to the EIR. The issue of a Maximum Seismic Safety Alternative has been addressed in Response Q.3.

EIR page VI.1, 3rd paragraph, add at end of first sentence:

> "...which are proposed for the greatest amount of development under the Downtown Plan.

Page VI.1, 3rd paragraph, add underscored language to third sentence, and delete that in brackets:

> "...which along with debris in the streets would impede[ing] the access of emergency vehicles responding to fire and other earthquake-related emergencies."

Page IX, 1, add underscored language to last sentence as follows, and delete that in brackets:

> "...would be in an area of substantial seismic hazard and result in more exposure to death and injury, albeit [a hazard] less than that present under the Planning Code (Alternative 1).

Some comments maintain that downtown development should be limited to the bare minimum, based upon employment needs of San Francisco residents as determined by a labor pool analysis, with office development elsewhere in the region. See Response B.5.2 for discussion of a labor pool analysis, and Response Q.4 for a discussion of halting growth in downtown San Francisco. The annual limit of 500,000 gross square feet of office space which is analyzed in the EIR is identified by the comment as being the minimum essential for San Francisco to maintain its business community activities. The Department is unaware of any studies which offer guidance on the minimum growth required in order for San Francisco to maintain its economic vitality and historic character as an international city (as suggested in the comment). It is not reasonable to expect planning policies and zoning regulations to encourage and promulgate that minimum growth with precision in the face of the broad brush of market forces which dictate growth or whether growth will even occur. As stated on page VII.2 of the EIR, "When viewed together, there is less variation among alternatives in terms of overall growth than might be expected .... The differences among all six alternatives are relatively small by the year 2000, whether the measure is space developed, employment, housing or transportation." This similarity is in spite of a broad range of regulatory alternatives, including the present relatively unrestrictive pre-interim-controls City Planning Code, a slightly more restrictive Chamber of Commerce - developed alternative, and past ballot concepts (one which failed, and another which was conceived but not put on the ballot) proposed by SFRG. (The Downtown Plan falls between these two ballot concepts.) The similarity between results of these very divergent alternative suggests the great strength of the market in generating levels of development and growth. Each of the alternatives, if applied in concept to a declining city, would no doubt show similarities in continuing the pattern of decline.

K.8 CIVIL LIABILITY FOR EARTHQUAKE DAMAGE

The question of civil liability for earthquake damage is not an environmental issue, and the authors of this EIR are not qualified to provide a legal opinion.

K.9. STAFF-INITIATED TEXT CHANGES

The EIR on page IV.K.17 should be amended to include the following within footnote 3.

> "Additional seismic research suggests that the frequency of magnitude 8 earthquakes on the San Andreas Fault system may be greater than 125 years. Robert Nason of the U.S. Geological Survey, Office of Earthquake Research, in a telephone communication of July 31, 1984, stated the following:
>
> 'Geodetic investigations of earthquakes before and after 1906, and study of geologic effects in trenches, agree in indicating that the largest earthquakes on the San Andreas fault are usually 200 years or more apart. Modern interpretation is that we are not in an overdue situation for magnitude 8 earthquakes at this time. Some seismologists, such as myself, believe that it is magnitude 6 or 7 earthquakes that will occur in our lifetime, not magnitude 8.

Because the shaking is bad for magnitude 6 earthquakes, we should be concerned about them as well.'"

NOTES - Seismic Safety

/1/ An Assessment of the Consequences and Preparation for a Catastrophic California Earthquake: Findings of Actions Taken, Federal Emergency Management Agency, November 1980.

/2/ Robert Nason, U.S. Geological Survey, personal communication, July 2, 1984.

/3/ "Damage Assessment Plan for Volunteer Engineers," with volunteers from the California Structural Engineers Association and "Damage Assessment Plan for California Building Officials," to be staffed by building officials from non-affected jurisdictions. These efforts would supplement City inspections and would assist private building owners in determining whether building hazards exist. This discussion of aftershocks is based upon conversations with Philip S. Day, Jr., Director, Mayor's Office of Emergency Services, June 15, 1984; Thomas Jenkin, Architect, Mayor's Office of Emergency Services, July 24, 1984; Frank Lew, Deputy Superintendent, Bureau of Building Inspection, July 26, 1984.

/4/ Frank Lew, Deputy Superintendent, Bureau of Building Inspection, personal communications, June 6, 1984, July 26, 1984, and August 27, 1984.

/5/ Seismic Investigation and Hazards Survey Advisory Committee, City and County of San Francisco, meeting of July 2, 1984.

/5A/ Robert Preece, S.E., Preece-Goodie and Assoc., telephone communication, September 11, 1984, and Nicholas Forell, S.E., Forell-Elserren Engineers, Inc., written communication, September 10, 1984.

/6/ See California Administrative Code Title 8, Sub-Chapter 4, for Industrial and Construction Safety.

/7/ Based upon information from Herman Spaeth, Consulting Engineer, telephone communication, July 5, 1984, and Robert C. Levy, Superintendent, Bureau of Building Inspection, August 10, 1984.

/8/ Robert C. Levy, Superintendent, Bureau of Building Inspection, personal communication, June 28, 1984.

/9/ Charles D. Cresci, Deputy Chief, San Francisco Fire Department, personal communication, June 28, 1984.

/10/ Philip S. Day, Jr., Director, Mayor's Office of Emergency Services, personal communication, June 14, 1984.

/11/ Tom Jenkin, Architect, Mayor's Office of Emergency Services, telephone communication, July 26, 1984.

/12/ Lee Cordner, Industrial Power Engineer, Pacific Gas and Electric Company, telephone communication, July 2, 1984.

/13/ Federal Emergency Management Agency, An Assessment of the Consequences and Preparation for A Catastrophic California Earthquake: Findings of Actions Taken, November 1980, page 23.

/14/ S. T. Algermissen, W.A. Rinehart, James Dewey, et.al., A Study of Earthquake Losses in the San Francisco Bay Area: Data and Analyses, National Oceanic and Atmospheric Administration report prepared for the Office of Emergency Preparedness, 1972.

/15/ Center City Pedestrian Circulation and Goods Movement Study, prepared for San Francisco Transportation Policy Group in September 1980 by Wilbur Smith and Associates et al.

/16/ John A. Blume, San Francisco Seismic Safety Investigation, Tsunamis and Seiches, 1974.

/17/ Discussion of the Seawall and liquefaction was based upon telephone communications with John Kellogg, Assistant Chief Engineer, Port of San Francisco, June 29, 1984, and Don Hillebrandt, President, Don Hillebrandt Associates (Geotechnical Engineers) July 26, 1984 and August 28, 1984, as well as Master Geotechnical Report, Rincon Point - South Beach Redevelopment Project, San Francisco Redevelopment Agency, prepared by Harding Lawson Associates and Geo/Resource Consultants, June 1982, page 5-6, 13-16, and plates 5, 6, 8.

/18/ Mark Chiu, Civil Engineer, Bay Area Rapid Transit District, telephone communication, August 24, 1984.

/19/ Transbay Tube Surface Water Intrusion Study, Bay Area Rapid Transit District, September 1983.

/20/ James M. Kestler, Safety Programs Manager, Bay Area Rapid Transit District, written communication, August 1, 1984, and BARTD - Emergency Plan, Chapter VII, Earthquakes, and Chapter IX, Flooding.

/21/ Donald H. Cheu, M.D., F.A.C.S., Planning Concepts for a Catastaphic Earthquake in California: the Medical Response, June 15, 1984.

/22/ Donald H. Cheu, M.D., F.A.C.S., The Permanente Medical Group, telephone communication, July 11, 1984.

/23/ Philip S. Day, Jr., Director, Mayor's Office of Emergency Services, personal communication, June 15, 1984.

/24/ Paul Schwabacher, Acting Director, Bureau of Environmental Health Services, San Francisco Department of Public Health, written communication, August 16, 1984.

/25/ Tom Jenkin, Architect, Mayor's Office of Emergency Services, telephone communication, July 26, 1984.

L. HAZARDOUS MATERIALS

The San Francisco Fire Code in Article 29 contains newly-adopted regulations (Hazardous Materials Permit and Disclosure Ordinance) which require that anybody who stores, uses or handles hazardous materials must get a permit from the San Francisco Fire Department (SFFD) following other City Agency review by the Departments of Public Health, Public Works and City Planning. There is a 21-person Hazardous Materials Advisory Committee appointed by the Board of Supervisors to work with the Fire Department. The purpose of this process is to identify and make public the location, type and health risk of hazardous materials in the City. The permitting procedure includes site inspections, and retention of information available for public review for 30 years. Some uses presently require permits from the SFFD for hazardous materials use, such as gas stations, and Article 29 expands this requirement to make all information available to the public, and to have it available for a 30-year period. There are about 2,000 of these known uses, and inspections under Article 29 are likely to begin in January 1985. There are an unknown number of other uses which are subject to this requirement, which is expected to come under SFFD review through filing of other permit or license applications with the City, voluntarily or through other methods. It will take a couple of years to secure applications and issue permits for the uses subject to Article 29. Implicit in this process is the requirement that the storage and use of hazardous materials must comply with other appropriate Code sections./1/

A comment suggests that the City collect all this data before commiting to the type of long-term building program which would be allowable under the Downtown Plan, and include that information in this EIR. The information on location and type of hazardous materials will not be available for about two years, and delaying the Downtown Plan, which would allow less building development than the present master plan policies and zoning regulations, would not be reasonable, nor would the information be at a level of specificity helpful to the EIR analysis. The permit and disclosure process would, however, be useful as part of the environmental review involved in evaluating individual building proposals in the future. It would be helpful in establishing site-specific mitigation measures, when appropriate, as part of the environmental review process at that time.

A comment questions what the results would have been if the PCB spill at One Market Plaza in the afternoon following the 1983 Bay-to-Breakers race had happened on a weekday. The 4,300 employees of the Steuart Street Tower of the One Market Plaza complex would have been exposed to PCBs, by the tower's mechanical ventilation system, as would pedestrians. Pedestrian volumes at the noon hour on Mission Street and Steuart Street sidewalks alongside One Market Plaza are from 1000-1999 and 0-999, respectively. Averaging these out would indicate about 2,000 pedestrians per hour on these two sidewalks, or about 170 within a five minute period./2/

Approximately 100 persons who had an apportunity for exposure were put under medical surveillance following the 1983 spill. Those exposed had varying degrees of eye irritation, sore throats and skin problems for about two to four days after exposure, which symptoms were self-resolving without treatment. Those exposed were told to wash immediately and change into different clothes. PCB effects on animals are known, but not on humans. The greatest risk seems to be from dibenzofurans, a combustion product of PCB. No evidence exists of long-term adverse health effects on those exposed at One Market Plaza, although there are lawsuits pending asking for several hundred million dollars in damages. If the incident had occurred on a weekday, thousands of people would have come under medical surveillance. Liability for damages would have been substantially greater. No long-term effects are expected for those exposed in 1983, but conceivably greater exposure could have occurred on a weekday. Risk is proportionate to dosage.[3]

The possibility of toxic wastes being found during construction must be analyzed on a site by site basis, as part of the review process for each individual building (as was done for 2222 - 23rd Street (EE80.110) as part of that EIR on reuse of the former Dutch Boy, Inc. paint manufacturing plant). Such detailed analysis goes beyond the level of specificity possible in this program-level EIR.

NOTES - Hazardous Materials

/1/ This paragraph is based on a telephone communication with Robert E. Rose, Deputy Chief of Administration, San Francisco Fire Department, August 16, 1984.

/2/ Center City Circulation Program Pedestrian Circulation Study, Working Paper No.1, prepared for San Francisco Transportation Policy Group in February 1980 by Wilbur Smith and Associates et al. These sidewalks were at volumes of below 4 pedestrians per foot of sidewalk per minute, a common standard used in pedestrian activity analysis.

/3/ This paragraph is based on telephone communications with Dr. William Newsome, San Francisco Fire Department Physician, July 25, 1984; Dr. Charles E. Becker, Professor of Medicine at the University of California Medical School, July 26, 1984; and Dr. Richard Wade, presently with I.T. Corporation but overseeing City efforts at the time of the spill, on July 26, 1984.

N. SECONDARY AND REGIONAL STUDY AREAS

N.1. CONSIDERATION OF LAND VALUES IN AREAS NEAR DOWNTOWN

The effects of zoning and its potential effects on land values in the various use districts abutting the C-3 District (including the M-1 District) is taken into account in the development of land use and employment forecasts for the C-3 District. Indirect effects on development and land use outside the C-3 District is discussed in EIR pp.IV.B.55-62. Employment outside the C-3 district is discussed in EIR pp. IV.C.47-50. Also see Response B.2 for "City and Regional Analysis and Methodology," and D.2.S, for "How Forecasts Account for Employment Growth Outside the C-3 District". The effects of the Downtown Plan upon land economics outside of the downtown area are described in the EIR in terms of the direction and relative extent of potential shifts in activity and the resultant effects on the types and rates of growth in other parts of the City. The discussion of environmental impacts requires neither quantitative forecasts of future land values in areas outside the C-3 District nor a necessarily speculative discussion of the proportions of any changes in such land values that may be attributable to the Downtown Plan.

N.2. STATUS OF PLANNING EFFORTS FOR AREAS NEAR DOWNTOWN

This response answers questions concerning the status of major projects and planning efforts in the vicinity of, but outside of, Downtown San Francisco. The manner in which these projects and plans are considered in the EIR in analysing the impacts of future downtown growth is discussed in Response B.2. The manner in which the Transportation analysis incorporates consideration of these projects and plans is discussed in Response E.1.5.

RINCON HILL: The proposal is for a new residential community of several thousand dwellings, with incentives for low- and moderate-income housing. Mid- and high-rise housing would be permitted on about 3 of the 55 acres. Action on both the Final EIR and Plan is contemplated in late fall 1984 or that winter. Presently there are interim controls in effect which create a Special Use District with RC-3 (Residential-Commercial Combined, Medium Density) district standards coupled with a provision that uses may not be converted to offices. (See File 82.39 for the Plan. See Response B.2.3 for further discussion.)

NORTH OF MARKET: The proposal is to conserve existing housing within areas identified as residential. This includes reducing allowable height limits and calling for new development above the ground level to be residential. Action on this Plan is anticipated in the fall of 1984. (See File 83.204.)

CHINATOWN: The Department proposes to reconcile the identity and needs of Chinatown with the present overflow of Downtown development occasioned by adjacency and, in some portions, C-3 District zoning within Chinatown. This will require formulation of what Chinatown requires, strengthening of policies to support that, and zoning controls which support Chinatown's preferred mix of land use activities and differentiate it from Downtown. Community forums are being held, a proposal is expected the winter of 1984-85, and action on proposals is contemplated in 1985. Interim controls are to be considered in

October 1984, to restrict and control new financial institutions, housing displacement, and mid- or high-rise development. (See File 84.413 for the interim controls. See Response A.3. for further discussion of Chinatown.)

VAN NESS AVENUE: The proposal is to create a mixed use, predominantly residential district along this avenue, which is presently within a C-2 (Community Business) district, from Civic Center north to Broadway. This could accommodate a couple thousand or more new dwelling units. Specific proposals and a draft EIR are anticipated in the winter of 1984-85, and action in the spring of 1985. (See File 82.392)

SOUTH OF MARKET: The Department is reviewing existing zoning to revise it as necessary to preserve existing housing, industrial and business service activities. A proposal and a draft EIR are targeted for winter of 1984/85, with action on proposals in the summer of 1985. (See Response A.4. for further discussion.)

STADIUM: There are no current plans for a downtown stadium. The City continues to investigate the rehabilitation of Candlestick Park. (See Response B.2.3 for further discussion.)

MISSION BAY: No applications are filed and no Department planning efforts are underway for Mission Bay. For further discussion of this area, see Responses B.2 and E.1.9.

N.3. REGIONAL PLANNING RESPONSIBILITIES AND CONSIDERATIONS

Planning for the region is the responsibility of regional agencies, including ABAG and MTC. ABAG supports a city-centered concept in its Regional Development Plan and advocates that new development be accommodated within existing urban centers. The impacts of accommodating new development in San Francisco are analyzed in the EIR. San Francisco works with other Bay Area jurisdictions through its involvement with regional agencies, and San Francisco recognizes that there would be regional impacts resulting from new development downtown. The San Francisco City Planning Commission is aware of its responsibilities to consider regional impacts in deliberations regarding development controls for the downtown.

While interpretations may differ in their specific applications, Bay Area jurisdictions share a common understanding of the meaning of the regional "fair share of housing" concept. However, a common understanding among Bay Area jurisdictions does not exist regarding the region's "limits" or its "carrying capacity" except as defined by standards such as state and federal air quality standards. Adherence to recognized standards is addressed by the EIR.

In general, development in San Francisco benefits the Bay Area by providing employment opportunities. Decisions as to where an individual works and resides, although related to and influenced by cost considerations, are matters of personal choice. Development in San Francisco has costs for San Francisco as well as for the East Bay. People in the East Bay cannot commute to San Francisco without paying the costs of that commute.

San Francisco is concerned about all development impacts including regional housing, transportation and pollution problems. Development impacts are analyzed in the EIR, and mitigation measures are proposed to reduce impacts in San Francisco and the Bay Area. (See Response P for a further discussion of impact mitigation measures.)

San Francisco recognizes that growth control is necessary in the City. During preparation of this EIR, existing zoning controls (Alternative 1) were perceived to encompass the greatest amount of development that would be allowed. The Downtown Plan and Alternatives 2, 3, 4 and 5 would result in less development and fewer impacts than would Alternative 1. In addition, the EIR includes mitigation measures to further reduce impacts.

Further discussion on regional issues is included in Response B.2, B.2.1, B.2.2, B.6, D.2.3., D.2.5, D.3.2, D.3.3, D.5.2, E.1.5, E.1.7, E.1.9, E.2, E.2.7.4, E.3.1, E.4.3, H.4.3, I.2, I.3, I.6, N.3, O, P.1, P.3, and Q.

O. GROWTH INDUCEMENT

Growth inducement effects are covered in the EIR in more than one page, contrary to one comment received. As noted in Chapter X of the EIR, population growth induced in the region as a result of increased space and employment in downtown San Francisco would be lower than total employment growth forecast. This is because much of the employment growth forecast for San Francisco is for businesses that are likely to need some Bay Area location--if not San Francisco, then some other location in the region--and thus would occur in the region regardless of San Francisco's growth policies. Some of the employment growth would occur due to existing residents who do not now work (students, homemakers, unemployed workers) finding new jobs. Neither of these kinds of employment growth would provide new population to the region as a result of San Francisco policies and ordinances and thus would not be part of a growth inducing impact. Therefore, increases in population and in housing needs in the Bay Area caused by development permitted by the Downtown Plan, or by any other Alternative zoning/planning scenario studied in the EIR, would not be directly proportional to employment growth. It is not feasible to estimate how large a group this might be because we can not predict today how many people will come to the Bay Area as students and then remain to search for a job; some of these people will find employment in downtown San Francisco. There is no basis for determining the number of people presently not working who might accept employment in the future because they graduated from high school, were able to work because children had grown, or in some other way became employable or decided to return to the workforce. There is also no basis for predicting how many people who presently work elsewhere in the region would accept San Francisco employment to join the group of about 86-105,000 new C-3 District workers, many of whom would not be new to the region but would be newly employed in San Francisco. Without this kind of information, it is not possible to separate the numbers of existing residents who would be newly employed in San Francisco from new residents with new jobs in the City.

To the extent that growth in Downtown would represent a net addition of employment in the Region and a net addition to the population rather than merely employment of existing residents who are not presently employed, that growth would add to the demand for regional services such as power, water, waste disposal and transportation (this point is summarized in the Growth Inducement Chapter p.X-3).

Population growth attributable to employment growth in the C-3 District would be a relatively small portion of the overall projected regional growth. Regional population growth, both in San Francisco and elsewhere in the region, is not unexpected. The Regional Environmental Management Plan (prepared by ABAG) has assumed that population growth would occur in the Region, and ABAG has projected population increases of about 19% (about 1 million people) in the region between 1980 and 2000, with San Francisco's share of the region's population declining from 13.1% to 11.3% (Projections 83, pp. 31-34. Transit planning staff throughout the region use ABAG estimates of future regional growth in preparing 5-Year Plans. These population increases, only part of which can be attributed to San Francisco, must be and are being addressed on a regional basis through work such as that which is done for the Environmental Management Plan. The City and County of San Francisco is not a regional planning agency but participates in planning for the region. It would not be appropriate or economically feasible for San Francisco to assume ABAG's role in regional planning or analysis.

The Downtown Plan's basic objective is to control San Francisco's contribution to regional growth; the EIR explored this Plan and other Alternatives in both a regional and local perspective as noted above.

The EIR analysis was not limited to those impacts that would not occur elsewhere if the proposed Plan were disapproved, as stated in the comments. In fact, the analysis did cover impacts that would occur elsewhere in the region if the proposed Plan were rejected. If the Plan were not adopted, the No Project Alternative, Alternative 1, would remain in effect. This Alternative is the C-3 regulations as presently constituted in the City Planning Code and would provide for higher employment and more growth inducement than would any of the other alternatives analyzed, including the Downtown Plan. Thus, in analyzing the effects of Alternative 1 in detail equal to that of the proposed Plan, incorporating by reference analyses in the Consultant's Report as appropriate, the EIR provides a complete picture of the result if the Downtown Plan is rejected by decision makers and no other alternative is approved in its place.

The EIR analyzes the effects of no growth on pp VII.4 and 5 in more limited detail than that provided for the five alternative zoning scenarios, because, as discussed later in Section Q.1, it is beyond the scope of an EIR on one city's plan for downtown controls to forecast and analyse impacts of growth in all other jurisdictions in the region based on the assumption that little or no growth would occur in the C-3 District in San Francisco. It is not possible to predict with any degree of certainty where in the region growth would shift, in part because there are no past trends of extremely limited growth in San Francisco on which to base any forecast. The likelihood of adoption of a "No Growth" scenario is also somewhat limited.

The following sentence, quoted in one comment, appears to be taken out of context: "Most of the employment growth forecast for the C-3 District would otherwise occur elsewhere in the Bay Area, so the associated population and housing effects cannot be solely attributable to C-3 District policies." This statement was part of the explanation for why the employment growth forecast for the C-3 District would not cause equal increases in the region's population and thus the growth-inducing effects of the project would be less than the employment growth predicted. The commenter seems to think that, based on this premise, the entire EIR was limited to analysis of the net population increases. This was not the case. The main body of the EIR used the complete employment estimates to analyze impacts both in San Francisco and in the rest of the region, insofar as such an analysis was feasible. Total new employment forecast for the C-3 District was used to assess effects on land use, residence patterns and housing, transportation, air quality and other relevant environmental issues. Regional impacts of the estimated total amount of C-3 District employment were discussed under all topics as appropriate, at necessarily more general levels since San Francisco employees are often less than 10% of the total employed residents in other Bay Area Counties (see, e.g., Responses D.2.3, D.2.5, D.3.2, D.3.3, D.5.2).

A comment suggests that growth in employment in San Francisco's downtown is the main, or only, reason that natural resources are being "developed" to serve Northern California, and that all of Northern California development occurs as a result of San Francisco's growth. Other Northern California communities might take exception to such a parochial view of San Francisco's importance. It is worth noting that more office space was developed in the rest of the Bay Area than in San Francisco over the period 1972-79 reflecting a trend toward decentralization (see ABAG, Bay Area Office Growth, April 1981).

San Francisco water resources were developed in the Sierra Nevada beginning in 1913 and have not substantially expanded since the early years; the Hetch Hetchy system serves San Francisco and many other Peninsula and San Joaquin Valley users as well. Additional downtown buildings and employees have not required development of additional water sources.

Comments suggest that the Plan accepts whatever commercial growth the private sector proposes at the cost of natural resources, in particular the Toulomne River Camp. It should be made clear perhaps, that the controls of the Plan influence the market in such a way that yearly growth is forecast to be reduced from 1.6 million square feet of office space to an estimated average of 840,000 square feet. Additionally, the Plan proposes to manage the impacts of this reduced growth more vigorously than at any previous time.

The Tuolumne River has been included the Wild and Scenic Rivers System under the California Wilderness Bill (HR 1437). San Francisco is not proposing any projects on the Tuolumne River, although it conceivably could benefit from any projects by either the Turlock or Modesto Irrigation Districts which have contemplated projects in the past. The Berkeley Tuolumne Camp could be flooded by projects on the South Fork Tributary of the Tuolumne River by either these Districts or Tuolumne County. Such projects would be permitted under the Wilderness Bill but only if they specifically benefitted Toulomne County. However, the intent of the Bill is to allow camps such as the Tuolumne Camp to continue to operate.*

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*This discussion is based upon telephone communication with Leo Bauer, San Francisco Utilities Engineering Bureau, PUC, and Robert Canning, Tuolumne River Preservation Trust; September 7 and 21, 1984.

P. MITIGATION MEASURES

The EIR contains about 85 pages of mitigation measures which could be implemented by the City. Examples of substantive mitigation measures are annual growth rate limits, housing production requirements for C-3 District office development, mandatory retention of 266 architecturally significant buildings, a Muni Metro extension to Fourth and Townsend Streets, and the J-line connection to the Muni Metro Center. Measures which could be implemented by other agencies are also included.

Mitigation measures which could minimize significant adverse impacts or could reasonably be expected to reduce adverse impacts must be included. CEQA does not require that feasibility of mitigation be considered, only that reasonableness be considered. (See Section 15126(c), January 1984, State CEQA Guidelines.)

Worst case impacts could be mitigated by proposed annual limits (see Response P.1) and by tying development potential to the ability to mitigate impacts (see Response P.2). Other mitigation comments are addressed in the specific impact response to which they pertain (i.e., Seismic Safety, in Response K.6).

It should be clear that other mitigation measures may be required beyond the year 2000. As discussed on EIR page II.3, impacts beyond 2000 cannot be addressed now - nor can their mitigation measures. The Monitoring Program discussed in the EIR on page V.E.1 and then elaborated upon in Response P.2.3 should help provide a data base for analysis of impacts and mitigation measures towards the end of the century. At that time, when it is likely that further revision to downtown growth management policies will occur, a fresh look will be necessary at what opportunities exist to mitigate impacts of growth. (Also, see Response B.1.1 for its discussion of Full-Buildout Analysis.)

P.1. ANNUAL GROWTH LIMIT

Some comments suggest imposing a limit of 300,000, 500,000, 660,000, 800,000 or 840,000 gross square feet of office space per year. The DEIR describes the impacts of three annual growth limits: 500,000; 1,000,000; and 1,500,000 gross square feet per year (see EIR pages V.A.1-6, and the beginning of Mitigation Sections V.C. through V.K.). The impacts of a limit in the amount of 660,000, 800,000 or 840,000 gross square feet per year would fall between the impacts of the 500,000 and 1,000,000 gross square feet limits, which are covered in the EIR in the pages cited above. A 300,000 gross square foot limit would have impacts somewhere between the 500,000 limit and no growth at all (see Response Q.1). This limit would allow one medium-sized office building each year. Whether or not a limit is imposed is in part a policy issue to be decided by the relevant policy makers and in part a legal question to be determined by the City Attorney. The EIR describes the likely impacts of such limits, and is not, as one commenter suggests, directed at tearing the concept apart. (Also see Response E.6.1 relative to transportation impacts.)

Table V.E.1 on page V.E.3, "Transportation Effects of Annual Growth Limits, 1990, and 2000 under the Downtown Plan," shows the office space Person

Trip-ends (PTE) projected under the Downtown Plan assuming no annual limit and annual limits of 1.5 million square feet (msf), 1.0 msf and 0.5 msf. The percentage changes are obtained by taking the difference between the annual limit PTE and the no limit PTE, and dividing by the no limit PTE. This results in the percentage reduction in PTE that would result under each of the annual growth limits, compared to the no limit PTE. This table does not address amounts of office space. Its trip generation is derived from estimates of office space in Table V.A.1 on page V.A.2, "Effect of Annual Limits on Citywide Office Construction for the Downtown Plan, 1984-1990 and 1990-2000," which indicates the amount of office space that would not be built under the Downtown Plan, assuming annual limits of 1.5 msf, 1.0 msf and 0.5 msf. In order to clarify any ambiguity about what Table V.E.1 may suggest concerning the citywide office growth rate, that Table (on p.V.E.3) should be amended to included the following:

> "The effect of annual limits on citywide office construction is included in Table V.A.1, p.V.A.2."

There are a variety of ways an annual limit might work, assuming an annual limit was legal. The EIR described the three basic approaches on pp.V.A.3-4. They are: 1) random selection (first-come, first served or a lottery); 2) criteria which cost money; and 3) criteria to direct development. Any of these approaches could be made to work from an administrative point of view. Which of these alternatives is preferable is essentially a policy question, as are any refinements of those approaches. What is considered a well-designed limit to some may be considered an ill-conceived approach to others.

"First come-first served" is the traditional way development occurs in the City and therefore, a system based on that method would be seen as a fair way to administer the allocation. Under this system, the filing and review and approval process could proceed in much the same manner as it is carried out now. However, approved projects would be permitted to begin construction only to the extent of the annual limit. Once the yearly quota was filled projects would be held until the next year. The order in which projects would be allowed to be built could be based on the date the project was first filed with the Department or on the date the project was approved. The former would probably be preferrable because it would avoid undue pressures as to the timing of project approval. If the date of filing the project with the Department were determinative, some rule regarding timely pursuit of approval of the project would probably be required.

Another approach would be to employ a lottery system to determine which projects would be permitted to go forward. The lottery could be conducted from among projects which have been filed, or from projects which have been approved.

An allocation system employing criteria directing development might be patterned after the Ramapo, New York, point system. This was a growth management program, approved in the landmark decision Golden v. Planning Board of Town of Ramapo, 285 N.E.2d 291, (1972), which became the planning prototype for growth management in the 1970s. Permits were granted in Ramapo, New York, under a development point system which was based on the project's proximity to or availability of sewer facilities, drainage facilities, recreation facilities, roads and firehouses. (This system is well described in the planning literature. See, for example, "Ramapo's Managed Growth Program"

Planner's Notebook, Vol.4, No.5, (October 1974), or Zoning Digest, Vol.24, p. 99 (1972)).

Criteria related to factors that would make the project relatively more or less desirable in the San Francisco setting could be substituted for the criteria used in the Ramapo system.

It would be possible to design a limitation which is applied to subareas of the City, as a refinement of the annual growth limit discussed in the EIR. This would provide greater assurance of where the permitted growth would occur than would a citywide limitation where other factors would determine where in the City the permitted growth would occur. Within the C-3 District covered by the EIR, the Department believes that zoning controls are the most effective means of guiding development within subareas, rather than a subarea-oriented growth limit. Commercial areas outside of the C-3 District are being addressed by the Department's Neighborhood Commercial Rezoning Study, South of Market Bayshore Industrial Area Study, Van Ness Avenue Plan and other studies which address office space and other factors, and are presently undergoing environmental review. Some modification to zoning controls outside the C-3 District are being proposed as mitigation measures in this EIR (see Response Y.2).

A comment suggests that an annual limit would protect South of Market and other center-city neighborhoods, because the most valuable locations (those within the C-3 District) would be the ones to develop. This pattern of new growth would be likely to occur as described in the comment only if all property were owned by a single property owner who could then decide where in the City to use the annual growth allocation. To maximize profit, that single owner would be likely to locate that space where the return on investment would be greatest. That may be the C-3 District where the rents would be highest. However, it is possible that lower construction costs for non-highrise construction outside the C-3 could result in greater return on investment, in which case the allocation would be located there. In any event, property is in multiple ownerships and many of these owners will wish to develop their property even though some other property owner could get a greater return on investment. Therefore, where development is likely to take place depends in part on the method of allocating the permitted annual growth rather than on where the return of investment would be greatest. A "first come-first served" or lottery system would result in a different locational pattern than would an allocation system in which location itself was a factor in making the allocation. It would be possible to base the allocation system on location so that the office growth occurred in the manner described in the question.

Even with an annual growth limit on office space much of the growth in office employment would still occur in the City. The amount of employment growth with an annual limit would be larger than the amount occurring in only the allowable new development, because there would be pressures to upgrade existing space, to increase activity in existing space, and to convert other space to office space. Many of these actions would not require City permits and thus would be beyond the City's control. For example, under the Plan, an increase in activity in existing space, representing about a 4 percent increase in office employment densities, is forecast. This would be equivalent to about a 40 percent increase in the net addition of office space forecast from 1990 to 2000 (see EIR p.IV.B.41). The pressures for intensification of office space use could be greater with annual limits, depending on the limit adopted. Rents are likely to increase as this occurs. This intensification of office growth, and greater employment, would occur without public review. Thus there would be no opportunity to require measures to mitigate environmental impacts related to employment growth, such as housing and transportation.

On the other hand, even though there would be adaptations in the use of existing space, some activity that would have located in San Francisco would, instead, go elsewhere. Similarly, some existing firms already in San Francisco might eventually go elsewhere when their leases expire or when their space needs change. This increased office development outside the C-3 District and San Francisco is discussed in the context of establishing the status quo as the limit of development on EIR pages VII.4-5.

"Where else if not San Francisco?" is complex and varies by business activity, depending on markets served (local, regional, west coast, national, international), on size of companies, and on the functional make-up of operations. It also depends on the availability of space in other areas.

Back-office functions of larger companies already based in the C-3 District (FIRE, manufacturing, and utilities, for example) would consider locations south of the C-3 District as well as other regional locations when faced with more costly options in the C-3 District. Policies in other City areas would have a significant effect on where these jobs are located.

Many of the smaller companies affected (business services, wholesale, non-utility TCU firms) would still seek locations in relatively central, accessible places where rents are not as high as in the C-3 District. Many would look to other City locations. The policies in these areas are particularly important in how they affect the use of existing space in older buildings. Locations elsewhere in the region would be the other options for most of these activities. Some small firms, especially those run by City residents, might look to City locations in neighborhood districts. Others might locate in more distant industrial areas of the City.

Business activities that would be the most likely to select locations outside of the region if they could not find suitable space in the C-3 District are the ones least likely to be affected by the limits on development and the resultant higher rents. These include headquarters and executive functions of larger companies, those activities which serve them (primarily business services), branch offices of national and international companies, and companies that serve West Coast or Pacific Basin markets. To the extent that annual limits would have some effect on activities in this group, preferred alternate locations would probably be out of the region.

The EIR in pages IV.B.55-62 identifies land use and real estate development effects of the Downtown Plan for the rest of San Francisco and the Region. Establishing an annual growth limitation, depending upon the amount allowed, could constrain development in C-3 a greater amount than proposed by the Downtown Plan. This would strengthen the trends discussed on those pages in the manner discussed in the annual growth limit mitigation on pages V.A.3-5. Also see Response B.2.2.

P.2. LINK DEVELOPMENT TO TRANSPORTATION SYSTEMS AND HOUSING DEVELOPMENT

Several comments say essentially the same thing, namely, that downtown development should be restricted and related directly to the development of transit and transportation systems and new housing construction. These comments specifically call for an annual schedule linking transportation improvements and housing construction to the amount of permitted development. A couple of the commenters went further and called for a halt in development until key transportation improvements and specified numbers of new housing units are in place. These comments might be summarized as: schedule mitigation together with permitted annual development, and halt development until the first mitigations are in place. In essence, these comments are suggesting an overall mitigation measure of scheduling other mitigation measures to match the rate of development.

Clearly there is an important relationship between transportation, housing, (and other mitigation measures) and development. The Downtown Plan in its recommendations and the EIR in its mitigation measures recognize this relationship, but do not propose a fixed linkage between these measures on some annual schedule for a number of reasons. The provision of housing for downtown workers and of transportation service to downtown, and the measurement of changes in these facilities, are extremely complex. These factors do not lend themselves to an annual schedule of so much transportation gained or so much new housing built equals so much development permitted. Downtown San Francisco cannot be reduced to an algebraic formula. As will be explained below, housing and transportation follow office development; housing developers and transit providers do not expand capacity in anticipation of some projected future growth in office development. Given the present nature of our market and governmental systems for providing or allocating resources of housing and transportation in the United States, it would not be feasible to require housing and transportation to be in place prior to the growth in office employment.

P.2.1. Allow Development Only As Transportation Capacity Is Expanded

Transportation service to Downtown can be categorized into a number of components by origin of the trips and by types of conveyance (travel mode). There are trips by San Franciscans which can be separated, as they are in the EIR, into four quadrants of the City, and regional trips by commuters from outside the City, which are grouped into North Bay, East Bay, and Peninsula trips. Each of these corridors is then subject to division into several distinct travel modes including various transit agencies and vehicle types as well as automobile mode. The automobile mode is further categorized into drive alone, carpool, vanpool, and subscription bus. The collection of data on shifts in these corridors and various travel modes is complex, costly, and does not provide a level of precision that permits the certainty of conclusion that a certain trend or change has taken place on a year-to-year basis. In short, if data is collected with all good faith on all modes for one day, and the same data is collected for the same day the following week, the variability between the two data sets will be larger than the annual increment of change that is being sought after as a long range trend. The variability occurs because demand is so linked to individual decisions of the nature of "am I going to work today, will I go in early or late, should I work late tonight or eat downtown, should I drive or take the bus or BART, or ride with a friend." Increased flexibility in business environments, examples of which are flex-time and floating holidays, and increased independence in personal life styles, supported by single-person and childless households, adds to the daily fluctuation of demand experienced in the past. Tieing development, a physical component which can be measured fairly precisely as it is either constructed or not, to transportation demand, which as the product of a behavioral system is extremely variable on a daily basis yet only can be measured in a "snap-shot" fashion, would produce very uneven, extreme, and inequitable results (and no doubt many demands for recounts in the hopes of obtaining more favorable results).

The Plan calls for the use of transit by downtown employees to increase from 64% to 70% over the period between 1984 and 2000. This represents a 10% increase in transit use over sixteen years, or less than one percent per year. This small an increment of shift, on an annual basis, is not feasible to measure with the precision required to establish a fixed linkage between transportation development and land use development.

Similarly, the Plan calls for a shift in average automobile occupancy rate from 1.48 persons per vehicle to 1.66, or a 12% increase by 2000. Vehicle occupancy rates are difficult to measure, except at the controlled toll booth points on the two bridges, and again, the daily variation would most likely exceed the small increment of annual change that is being sought to measure. Consequently, the monitoring program that is being proposed, as part of the Downtown Plan, recommends a two-tiered approach with an annual report gathered from available data as some assessment of trends and a second tier of more comprehensive data collection about every five years when sufficient time will have elapsed to create a measurable shift in transportation system use. Also see Response P.2.3, Monitoring Program.

The EIR impact analysis indicates that most of the transit demand resulting from downtown growth can be accommodated by implementing the vehicle acquisition and other plans of the transit operators included in Mitigation Measures 2, 3, 13 (a through f) in the EIR. (See Section IV.E.) Additional mitigation measures were tested (and set forth in Proposed Amendments to the Downtown Plan, June 1984, page 19) to determine those necessary to accommodate all the peak period demand projected in the EIR. Three were found essential to meet and accommodate all demand (and level of service goals) from transit riders and "excess motorists" that cannot be accommodated by bridges and freeways entering the City. The three major capital projects tested as mitigation measures were the Muni Metro turnaround at the Embarcadero (Mitigation Measure 5), the Muni Metro extension to 4th and Townsend Streets (SP Depot) (Mitigation Measure 6), and the addition of about 100 cars to make all BART transbay trains 10 cars during the peak two hour period. These calculations are on file and available for public review at the Department's offices during normal business hours. To accommodate all East Bay travelers during the peak of the peak period, additional A/C Transit service and other measures may be required. The measures would be necessary to accommodate the fluctuation of demand over the peak period, because although all riders could be accommodated during the peak period, it is likely that not all could be accommodated at the time they prefer to travel. This will require fine tuning in the future, of the nature of adding extra buses on particular transit lines. No specific mitigation measures can be identified at this time for responding to these future behavioral patterns. San Francisco travelers to Downtown, and travelers within the Downtown, will require other transit enhancement measures such as transit preferential street treatments (Mitigation Measure 19). Collectively these are the implementing actions for transportation required as a consequence of downtown growth. (Also see Response E.6) The following should be added as Mitigation Measure 2A on EIR page V.E.5.

> "2A. Make BART transbay trains 10 cars.
>
> "Fund and implement purchase of 100 new cars to enable all BART transbay trains to be 10 cars during the peak two hour period. This would provide about 80 new cars in service, and about 20 as back-up."

As indicated above, there are specific implementation projects required to meet forecast downtown employment growth. It is proposed to monitor these key mitigation measures in 1989. This year represents six years from the time of the last formal cordon count of all traffic entering and leaving downtown as completed by the Department of Public Works in 1983. It is about seven to eight years after the last employee-employer survey. It is within one year of the 1990 U.S. Census, and would provide useful information in conjunction with the Census. By 1989, definite progress towards meeting (or not meeting) the vehicle acquisition plans of the various transit operators can be determined, and the Muni Metro turnaround should be under construction. (These parameters will be easily determined.) Similarly, planning and engineering for the Metro extension, the E-Embarcadero Streecar Line, the F-Market Streetcar Line, and longer range acquisition plans for the additional BART cars, should be well underway. At that point, definite statements can be made about the probability of transportation mitigation measures meeting the needs of downtown growth in a timely fashion.

Finally, there is the additional problem of linking transit operator 5-Year Plans with downtown development in a "lock step" approach. The two types of development necessarily move in uneven development waves and have historically. Commenters propose that office development be constricted for a period of years to hold down demand, while the transit operators would be asked to move full speed ahead with the high end of their vehicle acquisition scenarios. In fact, transit operators adjust their 5-Year Plans on an annual basis as a consequence of the previous year's ridership trends. Except for Muni, the City cannot change this pattern, and Muni is itself constrained by the overview (and funding allocations) established by both the Metropolitan Transportation Commission and federal Department of Transportation Urban Mass Transportation Administration. Several regional operators (SP, SamTrans, A/C, and Golden Gate) have experienced flattening or a decline in ridership over the last few years even though there is a presumption of continued downtown employment growth. Consequently, they tend to modify their vehicle acquisition plans and reduce the number of buses ordered. It would be imprudent to expend limited public resources now, on the basis of demand expected in year 2000. Transit operators could find it difficult to remain solvent in this type of environment, as have a number of other public utilities in the nation who have engaged in large expansion programs based on a projected demand increases. This type of resource allocation does have the potential for bankrupting a transit property.

Conversely, there can and will be instances when transit operators may experience large increases in capacity in a short time frame -- far in excess of those necessary to mitigate immediate growth. For example, BART is anticipating the receipt of (an ordered) 150 additional cars, a new yard and a tail track to speed turnaround time in Daly City (for which construction contracts have been awarded), the third track through the Oakland Wye to reduce delays (which is under construction), and the operation of new computers to reduce headways between trains (which are expected to be phased in over the next five years). All of these improvements should be in place before 1988 or 1990 and result in a significant increase in BART's capacity. Future capacity limits will be the primary focus of a study that BART is now undertaking.

Also see Response E.6 for discussion of mitigation measures.

P.2.2. Allow Development Only As The Housing Supply Is Increased

The arguments above related to transit and transportation systems also apply to housing. Housing generally is not constructed in anticipation of future demand, but in response to existing demand. Housing developers are unlikely to construct housing based on the projected demand created by prospective new office workers. That would leave them at risk for an inordinant length of time, as they would be forced to pay their carrying costs on the completed housing until the office building is completed, the new households are formed, and some of the new households decide to buy in San Francisco. Under today's financing conditions, that would be an extremely unprofitable way for a housing developer to conduct business. Developers recognize this, and choose to build housing where their market studies indicate that there is an existing demand. With such an existing demand, the developer is willing to gamble that the new units will be purchased as close to completion as possible, if not sooner, and the developer will not be forced to absorb any of the carrying costs for any length of time. Financing costs vary, and this affects a developer's willingness to carry projects. There are cycles in the production of housing, just as there are cycles in the development of office space. The cyclical nature of both makes matching demand and supply unreasonable on a short-term basis.

The Plan recognizes the desirability of adding an average of 1000 to 1500 units of housing per year to the City's supply. The Residence Element of the Master Plan set an objective of achieving a rate of new construction averaging 2000 units per year. Progress toward meeting these goals would be reported on an annual basis and evaluated every five years by the monitoring program described in Response p. 2.3. If the Five-year report indicates that housing is not keeping pace with demand, the City Planning Commission and Board of Supervisors should consider further mechanisms to either slow growth, increase housing, or both. As explained below, the five year report should be the basis for evaluating further controls, as changes in housing on an annual basis may fluctuate, and a five year average would be a more appropriate basis for evaluating progress towards Plan goals.

P.2.3. Monitoring Program

Comments were made specifically on the issue of monitoring the impacts of the development plan. Suggestions about data sources and timing of monitoring were made. The Downtown Plan calls for formal monitoring of the effects of Downtown growth:

> "Once the Plan and related Code amendments are adopted the Department would propose to monitor the effects, and to present to the City Planning Commission, Mayor, and Board of Supervisors an annual status report on the extent of Downtown growth, its consequences, and the effectiveness of policies in maintaining San Francisco's renowned environment and character." (Page 3)

In particular, the Introduction identifies housing and transportation as areas where specific targets must be met to ameliorate the effects of continued Downtown growth:

> "Key sections of the Plan identify what must be done to absorb new job growth in San Francisco, particularly in two critical supporting systems - transportation and housing. The challenge will be formidable. The Plan contains these basic targets: an average of 1,000 to 1,500 housing units should be built a year to ensure that increased employment will not adversely affect the San Francisco housing market. It also indicates that ridesharing must be expanded to point where the number of persons commuting by auto or van increases from 1.4 to 1.6 persons per vehicle. The use of transit by downtown workers must increase from ...[60% to 67%]* of all work trips in order to avoid unacceptable levels of congestion. (Page 2)
>
> ---
>
> * The percentages shown in the Plan on p.2 have been adjusted to the data base used in the Downtown Plan EIR and presented in Proposed Revisions to the Downtown Plan, June 1984."

The Downtown Plan EIR on page V.E.1 discusses the monitoring program. The following elaboration is provided due to the interest expressed in this concept.

A two tiered monitoring program is recommended to provide information on trends resulting from growth of downtown office, hotel, and retail activity. The two tiers are:

- o an annual collection and reporting of data from selected sources that are gathered on a regular basis, and
- o every five years, a more active data collection effort that includes a cordon count of downtown oriented travel and an employer/employee survey.

The first tier, or annual reporting, would necessarily be supply side oriented (transit service and roadway capacity, etc.) and less detailed than the second tier collected about every five years which would include the demand side survey of employers/employees. The annual monitoring should provide an early warning system for trends that may develop indicating a shortfall in the long range goals. Those early warnings may indicate the need for collection of second tier data earlier than the fifth year.

The annual monitoring should be established by assembling a data base for 1984 and annual updates using the closest Tuesday to October 15th as a target date for collecting data. Some data, such as changes in occupied housing units or office space, would reflect an annual increment for the preceding fiscal year, or July 1983 to June 1984 for the base year data. Other data may not coincide with the specific target date, but, to the degree possible it should be collected near this time to reduce the seasonal variability. October represents a period which is after the summer tourist season and before the winter retail season and rainy weather.

The following categories of information are proposed for an annual monitoring report:

1) Office Space Inventory.

   An estimate of the office space completed, approved, and under construction during the preceding year within the C-3 District and in districts adjacent to the C-3 Districts. This should include the square footage (gross and net) of those projects, as well as an estimate of the time when the space approved and under construction will become available for occupancy.

2) Office Vacancy Ratio.

   An estimate of the current office vacancy rate.

3) C-3 District Office Employment.

   Using the inventory, vacancy rate, and the density factors used in the Downtown Plan EIR, the additional C-3 District office employment should be estimated.

4) Tourist Hotel Rooms and Employment

   An estimate of the net increment of tourist hotel rooms and additional hotel employment in the C-3 District.

5) Retail Space and Employment

   An estimate of the net increment of retail space and of the additional retail employment in the C-3 District.

6) Housing Units Certified for Occupancy

   An estimate of the net increment of housing units certified for occupancy throughout San Francisco. This can be done using the Department of City Planning's Annual Housing Inventory Report, supplemented by records of the Bureau of Building Inspection. This estimate should measure new construction minus demolition, and should count the new construction when it has received a temporary certificate of occupancy.

7) Parking Inventory

An estimate of the net increment of off-street parking space since the last parking survey in 1982 in the C-3 Districts and areas between Brannan Street and the southern boundary of the C-3 Districts.

8) Vehicle Occupancy Rates

An estimate of vehicle occupancy rates for vehicles entering the City. This can be collected from data produced by Caltrans, GGBHTD, and RIDES, Inc.

9) Transit Service

An estimate of transit capacity for peak periods. The various transit systems serving San Francisco can provide data on ridership and the number of vehicles in use.

Five Year Monitoring. In addition to the annual status reports, a more extensive and active data collection effort should be undertaken in 1989, 1994, and 1999. During those five year intervals a formal cordon count, administered by the Department of Public Works (DPW), should be completed to compare to the cordon count data base established in 1983 and an employer/employee survey administered by the Department of City Planning should be conducted based on the methodology employed for the Downtown EIR in 1981-1982. These monitoring intervals would provide data that could be used in conjunction with the 1990 and 2000 U.S. Census.

A commenter suggests that the monitoring report should include evaluation criteria which measure progress toward the employment goals of the Downtown Plan. These are stated on page 2, as follows:

> "The Plan recognizes the need to create jobs, especially for San Franciscans, and to continue San Francisco's role as an international center of commerce and services. New jobs to enhance these city functions, to expand employment opportunities and to provide added tax resources, make downtown growth at a reasonable scale a desirable course for the city.
>
> "The focus of the Plan therefore, is to make possible appropriate growth but to manage vigorously its effects--preventing building where change would diminish the city's character or livability but accommodating development that would futher the city's economic and social objectives."

Clearly creating jobs is seen as desirable, and as providing a basis for allowing downtown growth. It is the downtown growth and the people who fill those jobs that create the impacts that are addressed in the EIR. The monitoring program does propose to annually estimate the C-3 District office and hotel employment, and thus employment would be incorporated into its analysis.

Another comment suggests that the Department's proposed growth monitoring report be integrated with fiscal work of the Mayor's Fiscal Advisory Committee (MFAC) and the Office of the Controller. The MFAC has developed a computer fiscal model of the City, with inputs from a variety of areas including assessed values, taxes, and population to develop annual financial forecasts for the City./1/ The Controller each year prepares a Comprehensive Annual Financial Report for the City as a factual report of the preceding year, which includes statistics for the previous ten fiscal years. The Department has not determined whether the monitoring information on environmental effects of Downtown growth should be directly integrated with this fiscal information. The environmental monitoring information would be available for use by MFAC and the Controller, and the fiscal information by the Department.

P.2.4. Induce Developer Pressure Supporting Mitigation

Some comments suggest that restricting development to the rate that mitigations are put in place is critical. Presumably developers would then pressure the City, their friends, other counties and housing developers to speed up progress on mitigations so that their development projects could be approved. Response P.2 discussed the difficulty in linking development to mitigations, which is implicit in the imprecise methods of measurement that must be used.

It would no doubt be helpful if developers added their voices to those of governmental officials in developing those mitigations. There are presently specific programs, such as the City's Office Housing Production Program, which links provision of housing to office development, and the City's Transit Development Impact Fee, which links transit funding to new office space. These demonstrate both the ability and the will of the City to establish appropriate requirements linking development to mitigation. These requirements have for the most part been accepted by developers without the kind of motivation factors the commenters suggest is necessary. The Transit Development Impact Fee Ordinance is being challenged by a portion of the development community on constitutional grounds. The approval of all recent individual building permits (within the legislated boundaries of the District) has been conditioned on the project sponsor's agreement to pay the Fee or its successor if the Fee is not upheld in the State Court system. Property and sales taxes are other methods by which new buildings and the employees they house contribute to the City's financial ability to cope with their effects. Private sector cooperation is important in the City's ability to accomplish its programs and implementing actions, but the particular method which has been suggested for achieving it is not feasible.

P.3 ANNUAL EVALUATION OF SAN FRANCISCO'S IMPACT ON THE REGION

Some comments suggest that each year the City should estimate how much office space is likely to be considered, from that estimate then forecast housing and transportation demand, and then notify every other city and county in the region of the demand and ask them if they can accomodate it.

It is not possible to predict housing and transportation demand to the degree that would be required. The comment suggests that such demand could be traced throughout the region. There are so many other factors operating that this simply cannot be done. See Responses B.2, D.2.3, D.2.5, D.3.2, D.3.3, D.5.2, E.1.1, E.1.5, E.2, E.3.1, E.4.3, and P.2, for discussion of this difficulty. Further, the impacts of the Downtown Plan are demonstrably less than if the City did nothing. Alternative 1, as a continuation of the pre-interim controls City Planning Code, in all respects would have greater impacts on the region than the Downtown Plan. Inasmuch as the demand analysis that is suggested would be very speculative in nature, and would be for a regulatory proposal that is more restrictive and with fewer impacts than what now exists, such an annual reporting is neither feasible nor appropriate.

The distribution of the Downtown Plan EIR is indicated in EIR Chapter XII, and included regional agencies and the State Clearinghouse. There was substantial media coverage when it and the Downtown Plan were released, throughout the Bay Area, and all public jurisdictions which have requested it have received copies for review and comment. (Also see Response S.1)

NOTES - Mitigation Measures

/1/ Ray Sullivan, Budget Director, Mayor's Office, telephone communication, August 31, 1984.

Q. ALTERNATIVES

Q.1. NO GROWTH ALTERNATIVE

A "no growth" alternative is discussed on pp. VII.4-5 of the EIR, described as the "regulatory status quo" alternative. As noted in the EIR, it is not possible to completely stop employment growth, even if little or no new space were added, because there would probably be increases in employee density within existing space. However, this scenario would limit employment increases much more than any of the alternative rezoning scenarios discussed in the EIR, all of which would, as noted by the commenters, result in similar employment growth ranging from about 87,000 to 106,000 new employees. This status quo alternative, if implemented for a long period, would probably encourage development of new office space elsewhere in the region, particularly in relatively fast-growing areas of Contra Costa County and Santa Clara County.

The presence of no new space in the C-3 District would reduce forecast demands on public services and transportation systems in the District. However, it is not known whether service levels would increase beyond those described in the setting discussions of the EIR, since service increases are based on both increases indemand and continued increases in the City's general fund based in part upon property taxes. (With no new buildings, the property taxes collected in this area would be less.)

As fewer new buildings were built and property tax income to the City was limited by Proposition 13 to below inflation-rate increases, past downtown growth would not necessarily be "absorbed" if a status quo or no growth alternative were adopted as suggested by one comment. In addition, stopping growth inthe C-3 District alone would increase development pressures in adjacent commercial, industrial and possibly residential areas. If industrial and residential space near the C-3 District were to substantially increase their rates of conversion to office space as a result, City service such as fire and transit would be stretched beyond levels described in the Setting section since a larger area would be served. Restricting growth severelyin the C-3 but continuing to permit growth in surrounding areas would artificially increase growth rates in these areas, making it more difficult to expand transit and fire and other necessary services fast enough to keep pace with this new demand. A mitigation measure for these effects would be to severely limit growth potential and conversions in these surrounding areas.

Growth elsewhere in the region occurring as a result of no growth policies imposed on San Francisco's C-3 District would shift commuter-caused impacts on transportation systems to areas not as well-served by transit as is downtown San Francisco. As noted in the EIR, traffic and congestion, and local air emissions and noise levels would increase in areas where large amounts of office space was built in response to former San Francisco office space demand (p. VII.5). It is beyond the scope of an EIR on a zoning and plannin proposal for downtown San Francisco to prepare and analyze growth projections for the entire region based on a premise of "no growth"--no new space--in downtown San Francisco. Regardless, it can be stated that development pressures elsewhere in the region would increase and the amount of open space would decrease faster than would otherwise occur. Although many would live closer to their jobs under this scenario, more workers would drive to their place of employment unless transit systems were reoriented to provide peak period commute services in several different directions.

The transportation responses (§ E.2.1.3 and Table C&R E.8) include an analysis of transit levels of service that could occur if employment levels in the C-3 District remained the same as 1984 levels but planned transit improvements occurred. It is important to put that information into perspective by noting that the information assumes no growth in the C-3 District but does not assume that growth rates increase elsewhere in the region. The true scenario, while impossible to forecast with any degree of accuracy, would not likely produce similar non-C-3 growth rates both with and without continued C-3 growth. In addition, it is not likely that all planned transit improvements would be implemented if demand failed to materialize, since it is not economically feasible to operate a transit system at the levels of service that would result.

In summary, a "no growth" alternative was discussed in the EIR and the discussion shows that such an alternative, if implemented over the long term, could cause worse environmental effects elsewhere in the region in terms of loss of open space and increased automobile use during peak commute periods with increased air pollution.

Q.2. LOWER GROWTH ALTERNATIVE

Alternatives were chosen for downtown development based on a public participation process for the scope of the EIR which included written comments accepted from the public and four public hearings in June, 1981. EIR Alternatives represent input from all sectors of the community including the Chamber of Commerce (Alternative 2) and community groups concerned about downtown growth, including SFRG (Alternatives 3 and 4). Existing zoning controls (Alternative 1) were perceived to encompass the most development that would be allowed.

Alternatives presented in the Downtown Plan EIR contain a wide range of controls for height, bulk, density and location of development. Alternative 1 would permit maximum heights about 2-1/2 times taller than would Alternative 3. The Downtown Plan and Alternative 5 would increase bulk controls to mitigate skyline image and wind and shadow impacts, while bulk controls would not change for Alternatives 1, 2, 3 and 4. Alternative 1 would permit unlimited density for the Downtown area (due to the variety of FAR bonuses allowable) compared to maximum densities of 6:1-10:1 FAR for the Downtown Plan. On individual lots, Alternative 1 and the Downtown Plan would permit unlimited density (except through height and bulk controls) compared to maximum densities of 8:1-14:1 FAR for Alternative 3. The Plan and Alternatives 4 and 5 would result in less development than would Alternatives 1, 2 and 3 in Subareas 3, 4, 5 and 6. The Downtown Plan would result in less office expansion into the Union Square retail area (Subarea 6) and the portion of Chinatown in the C-3 District than would the Alternatives. The Downtown Plan and Alternatives 1 and 2 would result in more development in Subarea 2 than would Alternatives 3, 4 and 5. These are examples of the range of height, bulk, density, and locational impacts resulting from the public participation process which are included in the EIR. The Downtown Plan and all alternatives except Alternative 1 (the existing Planning Code) would result in reductions in the rate of downtown development.

Mitigation measures such as annual growth rate limits (see Response P.1) add to the range of development impacts analyzed in the EIR. If the City Planning Commission finds that there would be any significant environmental effects due to adoption of revised controls downtown, they could require implementation of mitigation measures to reduce impacts to a level of insignificance.

Regional recommendations on growth would most appropriately be made by regional agencies such as ABAG, MTC, BAAQMD and BCDC. The authority to make land use planning and zoning decisions in East Bay and other communities is held by the individual jurisdiction, and is outside San Francisco's purview or the scope of this EIR. Communities that decide to accommodate growth through planning and zoning decisions would be responsible for analyzing potential environmental impacts from resulting development. They also retain the option to not accommodate growth, consistent with planning and zoning laws.

San Francisco and the rest of the Bay Area are interrelated. Development decisions made by one community would result in impacts in another. Impacts of San Francisco development cannot be confined within the City as it would not be lawful to prohibit intra-regional commerce or transportation, to restrict employment opportunities to San Francisco residents, or to require that employees who work in San Francisco reside in San Francisco. In addition location preferences are decided on an individual basis. (See Responses B.2, D.2 and D.3 above for further discussions of employment and residential locational preferences.)

Q.3. MAXIMUM SEISMIC SAFETY ALTERNATIVE

Commenters suggested a Maximum Seismic Safety Alternative, based on shifting San Francisco Downtown and other Bay Area commercial development to locations where mid-rise development could be placed over bedrock, thereby eliminating liquefaction and subsidence potential and reducing ground-shaking during earthquake. Northern San Mateo County is suggested as a possible area to absorb the development envisioned for downtown San Francisco.

It is beyond the power of San Francisco to rezone property outside its boundaries to increase development potential in specific "seismically-safer" locations. It would, however, have the option of establishing the status quo as the limit of its development. Such a "no growth" concept is discussed in the EIR on pages VII. 4-5, which notes various locations where growth might relocate, and the possible impacts of such growth.

Also, there is discussion of this concept in Chapter VI on unavoidable significant effects elsewhere. In response to the comment, however, the following language concerning seismic safety should be added to the first paragraph on EIR page VII. 5.

> "Land developed outside of San Francisco may, depending upon location, offer greater safety during an earthqake. Much of San Francisco's Downtown is within Special Geologic Study Areas indicating increased earthquake hazard. Development elsewhere, particularly if upon bedrock at lower densities (and congestion)

> would reduce seismic risk for those new populations. On the other hand, this would result in the retention of many unsafe buildings within San Francisco, which may otherwise be replaced with seismically-stronger buildings before the next major earthquake."

Q.4. BETTER GROWTH ALTERNATIVE

A commenter suggests that another alternative should have been considered which would produce a balanced rate of growth, more growth in the employment of San Franciscans and the economy of the City with less impacts on the City's housing supply and transportation system, and less need for public investment of funds. The details of that alternative have not been set forth in the comments. As is noted in the EIR on pages VII.1-2 and elsewhere in this Response Q and in Response S.1.1, the alternatives selected for analysis were derived from a public participation process involving all sectors of the community. Those alternatives represented various "better growth" concepts, as perceived by different interests. As discussed in Response Z.1, subjective judgment is implicit in a broad concept such as a "better growth" alternative.

While the alternative was not defined, a possible interpretation would be as follows. More growth in the employment of San Franciscans suggests (1) requiring or otherwise inducing C-3 District employers to give priority to employing San Franciscans, or (2) directing the growth of additional C-3 District jobs towards those for which San Franciscans would have a competitive advantage (other than by proximity) over the rest of the region. Presumably the benefit would be that (1) residents who are unemployed (and not likely to be employed elsewhere) would fill those jobs, thus reducing unemployment, or (2) that employed San Franciscans working elsewhere in the Region (but not in San Francisco) would now be persuaded to work in San Francisco, thus reducing commuter travel. This scenario is consistent with two of the other aspirations presented for the alternative, as (1) the City economy could benefit from more employed residents (fewer dependant upon public assistance or social welfare) (2), there would be less impact on housing supply (the residents taking these jobs would have their residences already, and fewer would wish to move to the City based on its being their new place of employment). The effect upon the transportation system is arguable, however, as clearly Muni and the City street system would be more strained by a greater internal commute (although this would be linked with less impact on non-City systems such as BART or the Golden Gate Bridge). This effect on the local transportation system would require more investment of City funds (although this would be linked with less transportation investment by other public bodies).

This discussion is necessarily very conjectural due to the lack of specificity of the proposal, and it is unclear precisely where this alternative would fall within the range of alternatives analyzed in the EIR. Response Q.1 discusses how the "no growth" or "regulatory status quo" alternative is treated in the EIR; Alternative 1 of the EIR, the existing regulatory framework, would allow the most employment growth. It is employment growth that produces the impacts analyzed in the EIR. It appears reasonable to infer that the impacts of the better growth alternative, insofar as it is able to be constructed based upon the testimony received, would fall within the range already considered.

The Department used the alternatives analysis of the Consultant's Report and additional public comments in developing the Downtown Plan, and its reasons for selection are discussed on EIR pages VII.30-32 and in Response Q.5. Further modifications have been proposed as mitigation measures based on public comment on the Plan as well as on the EIR (see Response Y). In balancing a variety of factors the Department concluded that, while others including the commenter might have their own opinions, its own vision of a "better growth" alternative was found in its preferred project (the Downtown Plan).

Q.5. REASONS FOR SELECTION

A comment suggests that in explaining its choice of the Downtown Plan as the preferred alternative the Department showed lack of interest in small businesses and residents in the South of Market and that this implied value is not necessarily shared by most San Franciscans. The EIR section referenced, pp. VII.30-32, summarizes the reasons that the Department staff thought the Downtown Plan was preferable to the other five alternatives studied. Each of the alternatives included a balance of the values and issues considered most important by those who devised the alternative. The Department, in preparing its plan, attempted to balance the needs of the City as a whole--the community it serves--and does not merely emphasize jobs. The project proposed by the Department is based upon earlier drafts which received public review and extensive analyses in the Consultant's Report (as Alternative 5, covered both in that Report and in the Alternatives chapter of this EIR). It will be up to the decision-makers, the City Planning Commission and the Board of Supervisors, to determine the best choices for the City, which may include any of the six Alternatives with or without additional mitigation measures.

It is important to note that the entire South of Market area is not proposed for inclusion in the C-3 District; in fact, the boundaries of the C-3 District in the South of Market remain the same but for the inclusion of a small area on Fourth Street that is already part of the YBC Redevelopment Area. An approximately 5 block area is proposed to be designated C-3-O (SD) (Downtown Office, Special District) rather than the present C-3-S (Downtown Support) under the Downtown Plan; the entire South of Market is over 100 Assessor's Blocks. Impacts of office uses in the C-3 portion of the South of Market are covered in detail in the EIR, including the possibility that some existing businesses would probably not remain (see pp IV.B.56-61). Many of these businesses would simply move to other areas in the South of Market or perhaps elsewhere in the City.

Much of the South of Market is presently under a temporary moratorium restricting development to a 2:1 FAR (the M-1 District FAR is 5:1) with a parking requirement of 1 space per 250 sq. ft. (requirements for office uses are 1 space per 500 sq. ft. for areas over 5,000 sq. ft., other uses require less parking). During this interim period the Department is performing a detailed study of the portion of South of Market west of YBC to establish permanent controls. This is part of the Department's ongoing work program to study all of the east side of the City to establish appropriate land use and zoning parameters (the Rincon Hill Plan, the Van Ness Avenue Plan, the South of Market study, and the Chinatown study are examples of this major planning effort). Some secondary effects of the Downtown Plan are expected to be lessened by later actions taken as a result of this study.

Part of the eastern portion of the South of Market is proposed for rezoning for high density residential use in the Rincon Hill Plan. This Plan is undergoing separate analysis and review (see file 82.39EMTZ) and is expected to be presented to decision-makers in the fall of 1984.

Thus, the Department is not ignoring residential and business uses south of Market but treats them generally in this EIR, is proposing more residential uses in Rincon Hill than there are now in the eastern South of Market, and is studying the various uses in the western South of Market in a separate study. The decision to choose the Downtown Plan as the preferred alternative is not preferring office jobs to housing and small businesses in the entire South of Market area.

R. METHODOLOGY

Not only are growth rate projections from the EIR larger than projections from the Assocation of Bay Area Governments (ABAG), they are based on a scenario which would reduce the growth potential of downtown San Francisco. By using a methodology which results in more development and more development impacts than the ABAG methodology, the EIR has in general provided what appears to be a worst-case analysis.

In addition, specific portions of the EIR use a worst-case analysis. For example, on page IV.I.11 of the EIR it states: "In order to present a worst-case analysis, the downtown development-related emissions projected by this EIR are considered to be new emissions not forseen by the Air Quality Plan. It is likely, however, that some overlap exists between the downtown development-related emissions projected by this EIR and the total Bay Area emissions forecast by the Air Quality Plan, because growth assumptions were included in the Air Quality Plan." Throughout the EIR when more than one comparable analysis was available, that which would result in worst case impacts was chosen.

However, if each portion of the EIR were to use the worst-case analysis, there would be no reasonable case for the whole methodology which must be balanced. In the total picture, not everything can be worst case at the same time, some are mutually exclusive. For example, if the EIR used a worst-case analysis for BART, this would have to be balanced with a best case analysis for Bay Bridge traffic.

An EIR must include an environmental description of the project vicinity which shall be no longer than necessary to understand significant effects of a project. (Sec. 15125, Jan. 1984 State CEQA Guidelines.) CEQA does not require the inclusion of historic information except in the context of significant historic resources. Nevertheless, portions of the EIR do reference the past. For example, demographic information from 1900 to the present is included in Response D.1 above.

For further discussion, see Responses B.1, B.2, D.2 and E.1

S. EIR PROCESS, ADEQUACY AND COST

S.1. EIR PROCESS

S.1.1. General EIR Process

The City Planning Commission (CPC) appointed John Jacobs, Joseph Martin, Jr., and Charles Starbuck as members of an EIR Contract Monitoring Panel. John Jacobs and Charles Starbuck later left and Michael McGill joined the panel. The panel's responsibilities were to select an EIR consultant, negotiate a contract scope of work, including schedule and costs, and present the contract to the CPC (per CPC Resolution 8735, Oct. 1980). The CPC also designated the San Francisco Planning and Urban Research Association to act as the fiscal agent.

For the scope of the EIR, written comments were accepted from the public and there were four public hearings in June 1981. Responses to these comments were prepared by the consultant and published in September 1981.

For the Consultant's Report, which was made available in May 1983, written comments were accepted from the public and a public hearing was held on June 30, 1983. For comments received through July 1983, either General Responses to Comments were published in November 1983 and sent to the commenters, or letters responding to specific concerns were sent to individual commenters. All comments and responses are on file and available to the public at the Department of City Planning, 450 McAllister Street, 5th Floor.

The Downtown Plan EIR, published in March 1984, incorporates material from the Consultant's Report and carries forth the results of the Report on alternatives. (Information requested about the value gain analysis used for the Consultant's Report is discussed in Response B.1.4.10.) The Downtown EIR process as originally contemplated always recognized that the Department of City Planning would use the results of the analysis to develop a refined new proposal for downtown controls (per CPC Resolution 8730, September, 1980). In response to this process, the Department published the Downtown Plan with growth management controls in August 1983. This plan was based on a preliminary analysis conducted for the Consultant's Report and was analyzed as the preferred project in the EIR.

For the Downtown Plan EIR, the public comment period was from March 16, 1984 through June 4, 1984 and included public hearings on April 26 and May 3, 1984 (The EIR cover had indicated only the April 26 hearing, with April 30 as the end of the public comment period). Counting transcripts from the public hearings, the Department received about 650 pages of comments. This does not appear to indicate that, due to the printed nature of the EIR, the public accepted all of the information contained in the EIR, as a comment suggests.

As a result of a public participation process, alternatives for the EIR represent input from all sectors of the community including the Chamber of Commerce (Alternative 2) and community groups concerned about downtown growth, including SFRG (Alternatives 3 and 4). Existing zoning controls (Alternative

1) were perceived to encompass the most development that would be allowed. The range of the Alternatives along with proposed mitigation measures embrace feasible high and low levels of development.

The Department is both the sponsor and the author of the Downtown Plan EIR. Technical memos and background documentation which may be needed for future clarification are retained in Department files, while general correspondence between the Consultants and the Department is not retained. Department files are open for public inspection during normal working hours. To insure immediate access an appointment is desirable.

One commenter requested that the Department of City Planning respond to a letter from Sue Hestor, David Jones and Dale Carlson which instructs people that they need not be restrained by a lack of knowledge on the EIR to comment on the EIR, and which contains information about a public hearing.

The Department believes that it is appropriate for private individuals to enhance public participation and appreciates the efforts of a private mailing to involve more people in the process. As stated in Section 15201 of the January 1984 CEQA Guidelines, "Public participation is an essential part of the CEQA process...." Unfortunately, the aforementioned letter contained misinformation about the nature of the public hearing on April 26, 1984 which was for the EIR and not for the Plan. In addition, public hearings had already been held for the Plan before the EIR public hearings. Since the EIR hearings, additional hearings on the Plan have been held and will continue to be held until after certification of the EIR. Despite the misinformation within the letter, any and all public participation is appreciated.

A comment suggested that already planned transit improvements not be included as mitigation measures in the EIR. The transit improvements are planned regardless of the Dowtnown Plan, to meet anticipated growth in the Region. Since they were neither part of the project nor an already-accomplished part of the environmental setting, leaving them as mitigation measures seemed the only remaining option within this or any other EIR.

An EIR may not be adopted in draft form. After the close of the public comment period on the Draft EIR, the Department must respond to all issues raised during the public participation process and revise the EIR where appropriate. The EIR, including Comments and Responses, must then be submitted to the City Planning Commission, who must certify that they have reviewed and considered the information contained in the final EIR. No project approval action may be taken on a project until certification of the EIR. Thus, actions to adopt the Downtown Plan and to amend the Planning Code must follow certification of this EIR.

The Summary of Comments and Responses for the EIR have been made available to the public, and copies have been reserved for commenters on the EIR.

Throughout the four year process to adopt new downtown controls, public input has been continually considered. The EIR analyzes impacts resulting from development in the C-3 District which could occur under the Downtown Plan and the Alternatives. To increase the geographic study area would add additional time and analysis to what is already a complex process. Planning for other areas, including South of Market, is ongoing and is based to some extent upon the analysis for the C-3 District (see also Responses A.3, A.4 and N.2 for a discussion of planning studies for other areas). The Department believes that it is time to complete the process in order to reduce the potential future impacts downtown allowable under present policies and zoning. The Downtown Plan, in the opinion of the Department of City Planning, contains the largest number and best combination of important and desirable features for guiding downtown growth.

S.1.2. EIR Comments

CEQA has a formalized procedure for public participation. Although authorized by CEQA, public participation on the scope of an EIR is not mandatory. This EIR included a public comment period with four public hearings on the scope of the EIR. These comments were responded to in September 1981 and were considered in the preparation of the Consultant's Report and subsequent EIR.

The Consultant's Report was the product of the EIR Consultant and contained methodologies and preliminary analysis, portions of which have been incorporated by reference into this EIR. This background document was made available to the public, and public comments were accepted, responded to, and considered in the preparation of the EIR.

A commenter must summarize or briefly describe any continuing concerns for the Department to respond to. As the City has already responded to and considered comments on each phase of the EIR preparation, the commenter who requested that the Department respond again to earlier concerns has an obligation to specify which concerns remain. The Department did not incorporate the entire Consultant's Report by reference, and as required by CEQA, the portions of the Report's methodology and analysis which were incorporated into the EIR were summarized or briefly described. In addition, CEQA does not require that a document which is incorporated by reference undergo separate public review. The Department did prepare and distribute a General Responses to Comments on the Consultant's Report, which is part of this file and available for public review.

One commenter resubmitted his comments on the Consultant's Report during the public comment period for the EIR, and requested that the Department respond specifically to those comments. A comment that he had made on the EIR process was that the Commission impose an immediate moratorium on downtown office approvals. General Reponses to Comments on the Consultant's Report stated that actions to impose a moratorium had been initiated by the city and that imposition of a moratorium is a policy issue not appropriately resolved in an EIR. The City under Ordinance No. 54-84 on February 3, 1984 added Section 175.1 to the Planning Code establishing a moratorium on office and hotel development above 50,000 square feet until August 25, 1984. That moratorium has expired. The response remains that a moratorium is a policy issue not appropriately resolved in an EIR. Other concerns of the commenter are responded to under the appropriate topic and, for example, include a comment that air quality impacts were not considered in the Consultant's Report. The Department responded that an air quality analysis would be included in the EIR, and the EIR does include an air quality analysis. Although the

Department responded once again to these comments, in general the responses were repetitious of earlier responses. The Department appreciates it when a commenter fulfills his or her obligation to bring up specific concerns at each stage of the process, instead of expecting a repetitious response to comments that have already been addressed.

A letter from the Foundation for the Preservation of San Francisco's Architectural Heritage, January 10, 1984, proposed a number of changes in the Downtown Plan which were subsequently addressed by mitigation measures included in the EIR. Heritage was concerned about the method of categorization of buildings and the building lists which were addressed by Mitigation Measure 7. They were also concerned about the preservation of significant interior spaces, and differences between the Secretary of the Interior's Standards for Rehabilitation and the proposed standards contained in the plan, which were addressed by Mitigation Measures 6 and 9 respectively. Heritage raised issues regarding the role of the Landmarks Preservation Advisory Board and City Planning Code Article 10, and design review procedures, which were addressed by Mitigation Measures 5, 11, and 12. Heritage was also concerned about the demolition of contributory buildings and requested that the City Planning Commission retain requirements for conditional use authorization over the demolition of these buildings which was addressed by Mitigation Measure 10. As the January 10 letter predates publication of the EIR, and as aforementioned concerns were addressed as mitigation measures of the EIR, this letter could not be construed to be comments on the EIR.

Specific comments on the draft proposed zoning amendments contained in the April 25, 1984, letter from Heritage which do not address environmental impacts are not responded to in this document as specifics of the proposed amendments were revised in June 1984 and are in the process of being further revised in response to comments by Heritage and others. Concerns about continuing environmental impacts that Heritage raised during the April 26, 1984 DEIR public hearing, and in letters dated April 25 and June 1, 1984 are responded to in the appropriate sections of this document.

One commenter from SFRG requested that the Department respond to comments on the SFRG's critique of the Downtown Plan (yellow cover) and critique of the Downtown Plan EIR (tan cover). The critiques were not described by title, date or specific author. After the close of the public comment period, the Planning Department ascertained that neither a yellow or tan covered critique had been submitted to the Department, although the sections of the tan-covered critique were apparently submitted separately to the Department. SFRG then informed the Department that the yellow covered document was titled The Downtown Plan: A Citizens Critique and was published in January, 1984. The Planning Department had obtained a white covered copy of this critique which was in the Downtown Plan files. The comments in the critique are on the Plan, as the title states, and not the EIR. As this critique was printed two months prior to publication of the EIR, the comments could not be construed to address the EIR.

Regarding SFRG critiques submitted on the EIR, one commenter (Sue Hestor) phoned the Department on the last day of the public comment period to ascertain whether all of the comments submitted by SFRG had been received.

Upon hearing which letters and critiques had been received, the commenter told the Department that there were comments missing. The Department then agreed to give SFRG the opportunity to submit the missing comments on the following day for inclusion in the Final EIR, and the missing components were submitted that day. The Department appreciates SFRG's not only submitting about ten letters and critiques containing about 120 pages of comments on the EIR, but their facilitating organized other community groups' comments on the EIR as well. (See Response S.1.1).

S.1.3 EIR Availability, Public Hearings, and Comment Period

The distribution list for Draft EIR availability included the Department's standard EIR Distribution List, the SPUR listing of neighborhood organizations, commenters on the scope of the EIR, commenters on and purchasers of the Consultants' Report, and any other person, agency, or neighborhood group who requested inclusion on the list. As part of the public participation process, the Department supplied the press with copies of the EIR and requested that they inform the public of EIR availability and the first public hearing. The San Francisco Progress, San Francisco Examiner, and San Francisco Chronicle all carried front page stories about the EIR. The City of Berkeley, ABAG, MTC, BART, AC Transit, and the State Departments of Health Services and Transportation are public agencies which commented on the EIR.

Copies of the Draft EIR were distributed to public agencies and made available to the public. On March 19, 1984, 175 copies were given away and a waiting list was established which reserved future copies on a first-come, first-served basis. Although there were insufficient copies to supply all individuals with personal copies of the EIR, instructions were attached to the waiting list informing the public of the availability of loan copies. The Department distributed 40 copies at a March 20 meeting of the coalition for San Francisco Neighborhoods, which were divided between neighborhood representatives and members of SFRG. As a convenience to the public, each branch of the San Francisco Public Library was supplied with one copy (for a total of 30). In addition, ten Department loan copies were available to be borrowed for a two-week period, and six Department counter copies were available at the Zoning Information Counter. Since publication of the Draft EIR, no more than eight loan copies have been loaned out at one time.

Commenters requested an additional public hearing and an extension of the March 16 - May 3 public comment period. The City Planning Commission continued the April 26 public hearing to a second public hearing on May 3, 1984 and extended the comment period until June 4, 1984.

Commenters requested an extension of the June 4 deadline. The Department did not extend that deadline, already well beyond the legal requirements, for several reasons. Much of the analysis for the Alternatives, and the general methodology for the analysis of the Downtown Plan, were included in the Consultants' Report which had been available since May 1983. Further, within the approximately 650 pages of comments that were received on the EIR, comments covered every EIR topic (i.e. Land Use and Real Estate, Employment, Housing). While perhaps not every individual was able to respond in as thorough a manner as he or she desired, the public in general was able to comment (and in much detail) on every EIR topic over the 11-1/2 week public review period. Although one commenter stated that he would submit additional comments in a week, they were not submitted by publication of Comments and Responses. The Department responded to all comments received through June 6, 1984, two days beyond the deadline. Extending the deadline further did not seem critical from the standpoint of providing further public comment, and would have prolonged what many considered an overlong process to develop, consider and adopt new development guidelines to manage vigorously the effects of downtown growth. (See Response S.1.1 for duration of process.)

Although State CEQA Guidelines do not require public hearings as part of the public review process, the City Planning Commission holds hearings to facilitate public comments. Less organization of comments for Comments and Responses would have been required if comments had been presented by topic. Members of SFRG and the Coalition for San Francisco Neighborhoods did turn in separate written documents on discrete topics. However, neither the Department nor the City Planning Commission wished to inhibit anyone from speaking on any or all of their concerns. Thus at both public hearings, commenters were allowed to speak on any topic of their own choosing. The EIR itself is one interrelated impact document, with analysis in each section applicable to other sections.

For the Downtown Plan, the Department of City Planning held a press conference to announce its publication, and Bay Area and National newspapers, magazines, radio and television media publicized the Plan. Agencies in the region have been afforded the opportunity to review the Plan and provide comments as they believe appropriate.

S.1.4 Project Definition and Revisions

One commenter stated that "the designation of each structure as significant or contributory [as an historic/architectural resource] is a separate discretionary action by the Commission. As such, each designation is a 'project' within the meaning of CEQA." The Downtown Plan EIR is a program EIR which according to Section 15168(a) of the State CEQA Guidelines "may be prepared on a series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) A logical parts in the chain of contemplated actions; (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways." It may also be used in tiered environmental review under State CEQA Guidelines 15152.

For use of the EIR with later activities, Section 15168(c) states that "subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared," and includes specific guidance. Section 15168(d) provides guidance on the use of the program EIR with subsequent EIRs, Initial Studies and Negative Declarations. Sections 15152(d) and (e) provide similar guidance.

Discussion on the use of a program EIR states that "the permissible uses of this document are provided in an effort to encourage its use. The program EIR can be used effectively with a decision to carry out a new governmental program or to adopt a new body of regulations in a regulatory program. The program EIR enables the agency to examine the overall effects of the proposed course of action and to take steps to avoid unnecessary adverse environmental effects." The use of tiered EIRs "can eliminate repetitive discussions of the same issues and focus the EIR on the actual issues ripe for decision at each level of environmental review." For further detail about a program EIR and tiered EIRs see Section 15168 and 15152 of the State CEQA Guidelines.

Commenters stated that sufficient project description is lacking by not including or referencing zoning amendments in the EIR. Under Description of Plan, the section titled "Required Approvals" explains that amendments to the Planning Code would be required for implementation of the Downtown Plan, and that these Planning Code amendments would need adoption by the Board of Supervisors and approval of the Mayor. (See page III.15 of the EIR.) The Downtown Plan establishes the basic framework for the amendments to the Planning Code and Master Plan which would translate the Plan from a proposal to a City policy. These implementing actions recommended by the Department are refinements of the Plan and within the scope of analysis presented in the EIR. There have been no substantive changes which produce new significant impacts, a criterion suggested in State CEQA Guidelines Section 15162 for evaluating whether new environmental review is required for a modified project, and do not require republishing the EIR or otherwise re-extending the public comment period.

To further clarify implementing actions analyzed in the EIR, Page I.1, paragraph two, line one, should be amended as follows:

> "This EIR summary describes briefly the Downtown Plan including its implementing actions, the major...".

Page I.3, full paragraph one, line one, should be amended as follows:

> "Implementing actions in the form of amendments to the Planning Code include features..."

Page II.3, paragraph one, sentence one, should be amended as follows:

> "The project analyzed in this EIR is the Downtown Plan and implementing actions in the form of amendments to the Planning Code."

A commenter stated that all issues and project revisions should be raised during the Draft EIR comment period, and that there should not be differences between the project description and implementation. The Department believes that it has an obligation to describe the disposition of the significant environmental issues raised by the public through methods such as project revisions which would mitigate anticipated impacts. (See Section 15088(b), State CEQA Guidelines.) The Department proposed changes to the Plan and the Planning Code after the close of the EIR public comment period, in order to respond to public comments and mitigate environmental impacts.

Where there would be significant environmental effects, a public agency may approve a project if "changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR." (Section 15091(a)(1), State CEQA Guidelines.)

Thus the Downtown Plan and proposed amendments to the Planning Code may not only be altered after the close of the EIR comment period, but may be altered after certification of the EIR as long as the changes would lessen signficant effects which were identified in the FEIR.

The Department does not know what revisions to the Plan or Planning Code might be required by Board of Supervisor's actions. However, the EIR has been written to encompass a wide range of impacts, from development that could occur under existing zoning controls (Alternative 1), to development that could occur under the Downtown Plan (or the more restrictive Alternative 4) with a 500,000 sq. ft. per year annual limit. If revisions were to occur impacts would be covered sufficiently as long as the Plan and implementing actions ultimately adopted did not increase impacts beyond this range. If proposed development impacts were to increase sufficiently through revisions, the City would prepare a supplement to the EIR.

Although the public must comment on environmental effects before all mitigation measures have been proposed for the EIR, public comments on the proposed Plan and implementing actions will be accepted after the EIR has been certified. Thus comments on the actual project may be made based on full disclosure of the final EIR.

S.2. EIR ADEQUACY

Comments about the completeness and adequacy of the EIR contents are responded to under specific topic sections. One of the EIR purposes is to identify the significant effects of a project on the environment (see Section 21002.1(a), CEQA). It is the responsibility of the City Planning Commission to certify that the final EIR is adequate and has been completed in compliance with CEQA, (see Section 15090, State CEQA Guidelines).

S.3. EIR COSTS

The Department of City Planning is financed by the City's General Fund and application fees for specific development projects. The City Attorney's Office represents the Department in litigation.

The City encourages public participation in planning issues and environmental concerns throughout the planning process (see Response S.1.1.). There are over 500 groups representing particular interests in San Francisco of which the Department is aware. The Department does not have funding in its budget for discretionary grants of funds to groups which may wish to undertake their own planning studies. Planning within the Department is conducted by trained professionals subject to Civil Service educational and experience requirements. These professionals make planning recommendations to the City

Planning Commission based on a number of criteria, including comments from special interest groups.

EIRS, which were printed at a cost of about $50 each, were provided to the public without charge. Loan copies, available for use by the general public, were bound. The Department believed that individuals who chose to obtain a personal copy could pay for their binder in order to maximize the number of copies the Department could print under its publication budget.

The Downtown Plan EIR process was started in 1980, before the City's surplus was predicted. Business, labor and development sectors assisted the City by generating about $450,000 to provide environmental review for zoning revisions, which produced the analysis published in the May 1983 Consultant's Report. In 1983 the City was able to provide $380,000 for publication of the Consultant's Report and preparation of the EIR.

T. AMENDMENTS TO CHAPTER XI

Chapter XI, Report Authors and Persons and Organizations Consulted, should be amended to reflect additional authors and persons and organizations consulted during the preparation of this Summary of Comments and Responses.

In Chapter XI, page XI.2, the EIR should be amended by adding the following under Consultants:

> "Richard Pollack
> Environmental Impact Planning Corp.
> 319 - 11th Street
> San Francisco, CA 94103"

On page XI.2, the EIR should be amended by adding the following:

> "FEDERAL AGENCIES
>
> U.S. Geological Survey
> Robert Nason"

On page XI.3, the EIR should be amended by adding the following under Regional Agencies:

> "Regional Water Quality Control Board
> Donald Dahlke"

On EIR page XI.3, the following staff should be added under the Bay Area Rapid Transit District:

> "James M. Kestler, Safety Programs Manager
> Mark Chiu, Civil Engineer"

On EIR page XI.3, the following staff should be added under the San Mateo County Transit District (SamTrans):

> "Jim Gallagher, Assistant General Manager"

On EIR page XI.3, the following should be added under Office of the Mayor:

> "Ray Sullivan, Budget Director"

On EIR page XI.3, the following should be added under Office of Emergency Services:

> "Philip S. Day, Jr., Director"

On EIR page XI.3, the following should be added under Bureau of Building Inspection:

> "Robert C. Levy, Superintendent"

On EIR page XI.3, the following should be added under Department of City Planning:

"Lucian Blazej
Betsy Bateson
Catherine Bauman
John Deakin
Michael Estrada
Peter Groat
David Hood
Elaine Hung
Alvin James
Janice King
Joanne Le Duc
Clarence Lee
Eva Liebermann
Ana Luna
Linnea Lundmark
Lulu Mabelitini
Elsie Noceti
Marina Oviedo
Harold Rice
Carol Roos
Lois Scott
Margaret Saner
Julius Smith
Frederick Stuprich
Cathy Tang
Sylvia Williamson"

On EIR page XI.4, the following should be added:

"Clean Water Program
Louis A. Vagadori
Chief of Project Management & Coordination

"Department of Public Health
Bureau of Environmental Health Services
Paul Schwabacher, Acting Director

"Port of San Francisco
John Kellogg, Assistant Chief Engineer

"Seismic Investigation and Hazards Survey
Advisory Committee"

On EIR page XI.4, the following should be added under the San Francisco Fire Department:

"Charles D. Cresci, Deputy Chief
Dr. William Newsome, Physician"

On EIR page XI.4, the following should be added under the San Francisco Police Department:

"Thomas O'Donnell, Captain"

On EIR page XI.4, the following should be added:

"Utilities Engineering Bureau, PUC
Leo Bauer"

On EIR page XI.5, the following should be added under Persons and Organizations:

"Dr. Charles E. Becker
Professor of Medicine at the University of California Medical School

Stan Burford, KGO-AM

"Robert Canning, Tuolumne
River Preservation Trust

"Donald H. Cheu, M.D., F.A.C.S.,
The Permanente Medical Group

"Nicholas Forell, S.E.
Forell-Elserren Engineers, Inc.

"Don Hillebrandt, President,
Don Hillebrandt Associates (Geotechnical Engineers)

"Jay McCarthy, Clivus Multrum USA,
Boston M.A.

"Robert Preece, S.E.
Preece-Goodie and Associates

"Herman Spaeth, Consulting Engineer

"Douglas Still, Lane Energy Center
Cottage Grove, OR

"Jesse Tatum, Energy & Resources Group
University of California, Berkeley

"Dr. Richard Wade, I.T. Corporation"

Y. DOWNTOWN PLAN AND RELATED ZONING AMENDMENTS

Y.1 PROPOSED AMENDMENTS TO DOWNTOWN PLAN AND TO CITY PLANNING CODE TO IMPLEMENT DOWNTOWN PLAN

After publication of the Downtown Plan in August 1983, a number of refinements and revisions to the Plan were suggested through the processes of environmental and public review. The Department of City Planning considered and analyzed these suggestions, and in June 1984 it published a set of Proposed Amendments to the City Planning Code to Implement the Downtown Plan. This staff-initiated response identifies in summary form the revisions to the Plan that have been proposed, and incorporates those revisions directly into the EIR in summary form as mitigation measures. Other more specific provisions of the June revisions have been incorporated into the EIR as mitigation measures in earlier sections of this Volume 3 in response to specific comments./1/ The EIR should be revised by adding a Section L to Chapter V, Mitigation, as follows:

"L. STAFF-INITIATED MITIGATION MEASURES

"Measures Incorporating Proposed Downtown Plan Revisions Dated June 1984

"1. Adjust use district boundaries to more sensitively acknowledge the specific nature and character of selected areas in, and immediately adjacent to, the C-3 District, and address these areas through planning efforts best suited to the nature and character of the areas.

"2. Reduce the base FAR, and therefore the theoretical maximum amount of eventual growth that would be permitted as of right, in the C-3-G (from 8:1 to 6:1) and C-3-S (from 6:1 to 5:1) use districts.

"3. Adjust height limits in selected areas of the C-3 district to reduce the net total maximum amount of eventual growth, to achieve more variety and interest in the skyline, to respect major architectural resources better, to reduce wind effects at street level, and to achieve a more gradual transition in building heights between use districts.

"4. Refine bulk controls to encourage more slender building forms and more variety in the design of building tops.

"5. Provide additional protection for significant historic resources in the C-3-O and C-3-R districts by limiting eligibility for transfer of development rights into the Special Development District to the C-3-O and C-3-R districts (note that the lost eligibility to transfer development rights from the C-3-R and C-3-G tends to be offset by item 2, above) and by designating an area of Pine Street as a Conservation District.

"6. Clarify, refine and revise language in the Plan to assure legal compliance with Proposition K, the Building Code and Article 10 of the City Administrative Code, to refine performance criteria for effects of building projects on winds at street level, to include some publicly accessible interior open spaces in the list of qualifying open spaces, and to clarify requirements for transit improvements.

"7. Address the issue of seismic safety.

"8. Facilitate statutory adoption of the provisions of the Plan by presenting them as proposed amendments to the Planning Code.

"The above measures would mitigate a number of environmental impacts identified in the Downtown Plan EIR, including the following impacts identified as unavoidable and significant in the Draft EIR:

-- Air Quality. Reduction in total C-3 District growth, or rate of growth, due to the more stringent proposed FAR, bulk and height controls would reduce the theoretical maximum buildable floor area, and therefore the employee population of the C-3 District from what it would have been under an unrevised Downtown Plan, and would therefore indirectly reduce future pollutant emissions due to work-related travel to and from Downtown.

-- Architectural Resources. The proposed revisions would increase the protective incentive to transfer development rights from significant resources in the C-3-O and C-3-R districts to the Special Development District C-3-O (SD) by prohibiting transfer of development rights to the C-3-O (SD) from significant resources in the C-3-S and C-3-G districts. Although the C-3-S and C-3-G could no longer transfer to the C-3-O (SD), the revisions would increase the available opportunities for transfer within those districts by reducing the base FAR allowed as of right in those districts.

-- Seismic Safety. The proposed revisions would add a seismic section that calls for requiring evacuation and emergency response plans for new buildings and initiation of studies concerning seismic retrofitting for existing buildings, strengthening seismic provisions of the Building Code, and investigating the feasibility of requiring stronger buildings in special geologic study areas. These are related to Mitigation Measures 1, 2, 5, 6, 7, 9, 14, 15 and 16 in EIR Section V.K.

> "Besides requiring that an EIR identify mitigation measures for each significant environmental effect, the State CEQA Guidelines (Section 15126(c)) require that where a mitigation measure would itself cause one or more significant effects in addition to those that would be caused by the project (or Plan), those effects must also be discussed.
>
> "Because all of the significant impacts identified in the EIR are related directly or indirectly to Downtown growth, and because none of the above measures would have the overall effect of increasing Downtown growth, none of the measures would cause additional significant environmental impacts related to Downtown growth.
>
> "While it is possible that the proposed Plan revisions could permit larger projects or could cause greater localized impacts in some cases than would the unrevised Plan, the net effect of the revisions in the context of future C-3 growth would not be significant at the present general plan level of analysis. The localized impacts of future individual projects will be examined in future project-specific environmental analyses, but it would be speculative and inappropriate to attempt to analyze them in this general plan level EIR."

EIR page V.K.1, first sentence, should be revised to read as follows:

> "The proposals of the Downtown Plan (June 1984 amendments) are related to Mitigation Measures 1, 2, 2A, 5, 6, 7, 9, 14, 15 and 16, which follow."

Y.2 ZONING AMENDMENTS PROPOSED AS MITIGATION FOR AREAS AFFECTED BY DOWNTOWN PLAN

A number of commenters expressed concern about the spill-over effects of the Downtown Plan and its City Planning Code Amendments on adjacent and other commercial areas of the City. The Department has investigated the implications of the regulatory changes in the C-3 District upon other areas, and has concluded that some imbalances may result which should be rectified. This staff-initiated response identifies the non-C-3 City Planning Code amendments that have been proposed, and incorporates those amendments directly into the EIR as mitigation measures. The EIR should be revised by adding a second part to Section L of Chapter V, Mitigation (this Section was added in Response Y.1), as follows:

> "Measures Incorporating Zoning Amendments Proposed for Areas Affected by Downtown Plan
>
> "1. Adjust floor area ratios (FAR) in other commercial districts so that Downtown continues to offer the highest commercial density in San Francisco. Reduce the C-M (Heavy Commercial) District FAR from 9:1 to 5:1; reduce

the C-2 (Community Business) District FAR for property nearer to C-3 Districts than R (Residential) Districts from 10:1 to 4.8:1; eliminate or otherwise modify the Automotive Special Use District 10:1 FAR provision, so that its allowable commercial FAR is reduced to a level comparable with C-1 or C-2 Districts./1/

"These non-C-3 District reductions are commensurate with the Downtown Plan FAR reductions for the C-3-O District (from 14:1 to 10:1), the C-3-R District (10:1 to 6:1), the C-3-G District (10:1 to 6:1, June 1984 amendments), and the C-3-S District (7:1 to 5:1, June 1984 amendments). These reductions are necessary in order to keep the FAR in the non-C-3 District to a level equal to or below that of the C-3 District, lest the outlying areas of San Francisco begin to attract high density development more appropriate for Downtown. Reducing the FARs in the non-C-3 would stop this intensification (induced by C-3 FAR reductions) from happening before it even commences. Reducing their FARs would, in effect, maintain the status quo in these areas, by not allowing them to achieve a competitive advantage over Downtown locations due to an FAR disequilibrium.

"EIR pages V.B.3-5 and V.C.3-4 discuss preserving industrial and commercial support activities in the South of Market Industrial Conservation Special Use District, about half of which is outside the C-3 district. The EIR notes the City's concern that the area continue to provide space on affordable terms for support commercial activities. The EIR discusses the implications of removing that part of the City from consideration as a potential area in which to accommodate much of the back-office functions that would be looking for space in San Francisco. That discussion is very relevant to this mitigation measure which addresses a similar concern that uses in areas outside the C-3 District not be displaced by back-office functions seeking lower rents than would be found Downtown. The proposal for South of Market would benefit small businesses the most, particularly those that served other C-3 District businesses. This measure would also benefit small businesses the most. In the areas affected, those small businesses would serve primarily their neighborhoods, both residential and commercial, rather than downtown. The impacts of this proposal are primarily in terms of reducing areas in which back-office development might go. There would be less new office space developed within these areas, as they would not have a development potential suddenly greater than much of Downtown. Impacts of this for specific building sites are simply that smaller development would occur, which development would be subject to project-specific environmental review. Impacts of this reduction in non-C-3 district FARs for the districts and City as a whole, would be similar to those discussed in the "Annual Growth Rate Limits section at the beginning of EIR Chapter V, and in the subsequent discussions of annual limits on office development in sections C through K of Chapter V (Also, see Response B.2.2 for city and regional growth patterns, and in particular the subsection concerning Effect of Annual Growth Limits on Development Patterns).

"2. Establish the Chinatown Community Business (C-C-B) District for the area the Downtown Plan identifies as parts of Chinatown to be removed from the C-3-G District (pages 33-34) and from the C-3-O District (pages 27-28). That C-C-B District would have standards identical to the C-2 District (and Washington-Broadway Special Use District) to its north, including the exemption from parking requirements for non-residential uses, but with an FAR of 6:1. In addition, establish a conditional use requirement within the Chinatown area for projects over 40 feet in height./2/

"The Department is undertaking a longer-term study of this area (see Responses N.2 and Y.2), which may have the effect of altering these controls. In the interim, it is necessary to create a zoning district to accommodate the portion of Chinatown being removed from the C-3-G and C-3-O Districts. This new district would have the same general standards as the C-2 District, except that its Description and Purpose (see City Planning Code Section 210) would be changed to reflect its relationship to Chinatown, its FAR would be 6:1, and parking would not be required for non-residential uses. It would have the effect of reducing the FAR in the present C-3-O portion from the Downtown Plan proposal of 10:1 to 6:1, and of retaining the Plan proposal of 6:1 in the present C-3-G portion. There would be no change in the present parking requirement, which applies to residential uses only. The existing C-2 District to the north of Washington Street would retain the FAR of 4.8:1 it would have under the first mitigation measure of this subsection. In conjunction with the reduction of FAR (in the present C-3-O portion), the proposed conditional use requirement for any buildings over 40 feet in height would facilitate design control over new mid- or high-rise development.

"As with the first mitigation measure above, the reduction in FAR is necessary in order to keep the FAR in an area not considered part of Downtown equal to, or below, that of the C-3 District. This would prevent unnecessary change from happening and aid in maintaining the status quo. The discussion above concerning EIR pages V.B.3-5 and V.C.3-4, and the annual growth limits discussion in EIR Chapter V, are relevant to this mitigation measure as well. The conditional use requirement for buildings above 40 feet in height is procedural in nature, with its greatest effects likely to be in building design. The City Planning Commission presently has a power of discretionary review over all building permits. This conditional use requirement would add to its authority to modify or disapprove permit applications. In the exercise of approval powers, the Commission would have available specific environmental documents as to the effects of each project. No prediction is now possible on the buildings that would come before the Commission under this conditional use requirement, the impacts of those buildings, or the Commission's actions on those buildings."

"3. Reduce Floor Area Ratios and Heights for the portions of the North of Market-Tenderloin area which the Downtown Plan calls for reclassifying from a C-3-G District to a Mixed Use District (pages 34-35). The FAR could be reduced to 1:1 for non-residential uses, with allowance for an increase to 2:1 by conditional use authorization, and height limits could be established at 80 feet.

"The Department is undertaking other studies of the entire North of Market area. The primary purposes are to protect and enhance important housing resources in an area near downtown, conserve and upgrade existing low and moderate income housing stock, maintain sunlight in public spaces, and limit the development of tourist hotels and other commercial uses that could produce an adverse impact on the residential nature of the area (see Response N.2). Until new zoning is adopted for all the North of Market area, it is necessary to accommodate that portion of the North of Market being removed from the C-3-G District, in a way which would further these purposes.

"The new zoning would reduce FAR for commercial uses from the 6:1 proposed by the Downtown Plan for C-3-G to a maximum of 2:1. Residential FAR would not be included within any maximum FAR, but rather would be addressed by the 80 foot height limit. This is not likely to cause a reduction in residential densities in the area. A reduction in allowable commercial FAR would have impacts similar to those discussed in the first mitigation measure of this subsection, and is necessary in order to keep the FAR in an area not considered part of the Downtown equal to, or below, that of the C-3 District, to (prevent unnecessary change from happening and) help maintain the status quo. The reduction in commercial FAR goes beyond the needs for FAR equilibrium. This is in recognition of the residential character of the area. The discussion above concerning EIR pages V.B.3-5 and

C.C.3-4, and the Chapter V annual growth limits discussions, remain relevant for this proposal. The height limit would, in effect, establish a cap upon residential development which would be in keeping with heights and densities in the area, and is also designed, like the FAR reductions, to limit any change deriving from the Downtown Plan."

New Notes/1/ and /2/ are:

"/1/ The C-M Districts are in the eastern part of the City, with the major concentration along Mission and Valencia Streets and South Van Ness Avenue from about 10th to 20th Streets, and a triangle north of Market Street between Franklin and Octavia Streets, extending towards Oak Street. Other pockets of C-M are on Fulton Street near Octavia Street, near Harrison Street between 22nd and 23rd Streets, at Townsend and 4th Streets, near the I-280/I-101 Highway interchange, north of Hunters Point Ridge.

"The C-2 Districts nearer to C-3 than to R Districts are within Chinatown and Jackson Square immediately north of Washington Street, and in the vicinity of the Civic Center.

"The Automotive Special Use District is centered on Van Ness Avenue between about McAllister and Clay Streets."

"/2/ The Chinatown area for purposes of this proposal is the area generally bounded by Broadway, Columbus Avenue, Washington Street to Kearny Street, Merchant Street to Sacramento Street along a line 280 feet east of Kearny Street, Sacramento Street to a point between Kearny Street and Grant Avenue, the eastern and western frontages of Grant Avenue to Bush Street, the north side of California Street to Stockton Street, the eastern and western frontages of Stockton Street north of the Stockton Tunnel to Clay Street and the eastern and western frontage of Powell Street to Broadway."

NOTES - Downtown Plan and Related Zoning Amendments

/1/ The Proposed Amendments to the Downtown Plan, June 1984; and the Proposed Amendments to the City Planning Code to Implement the Downtown Plan, June 1984, are hereby incorporated by reference into this EIR. The documents are available for public review at the San Francisco Department of City Planning, 450 McAllister Street, fifth floor.

Z. ISSUES NOT COVERED BY CEQA

Z.1. GENERAL COMMENTS AND CONCERNS

The Department appreciates all public involvement and input in the EIR process, and thanks members of the public for the time and effort expended in commenting on this EIR. Because the purpose of an EIR is to provide information and analysis regarding the environmental impacts of a proposed project, issues related to other projects or to non-environmental concerns such as quality of life, economics or social information or services need not be included in an EIR. (While quality of life is a very subjective factor, readers of the EIR can form their own impression of how their quality of life will be affected by alternative downtown growth management controls through the discussion in the EIR of impacts within the downtown and other parts of the City.) As such, comments on other projects or on non-environmental concerns are not responded to in this EIR, nor are comments which raise policy issues for decision-makers to resolve. Some comments make personal observations or quote from the EIR or other sources, including the Downtown Plan, and although noted, do not require a response. Other comments not requiring a response were those which questioned the validity of methodologies not actually used in the EIR. Finally, some comments suggested mitigation measures which relate to governmental procedures and not environmental effects, and do not require a response.

Z.2. CHILDCARE

There was discussion of the need for childcare facilities downtown as a result of increased employment growth. This need would exist under all six of the alternative scenarios for downtown analysed in the EIR.

No physical environmental issues were raised by these comments; availability of childcare, like other social services, is a policy issue most properly presented to decision-makers for action rather than for physical environmental review. The number of children per household in San Francisco has declined in recent years (see EIR page V.D.6), although, as noted in the Response on Demographics, §D.1, San Francisco has always been a city of singles and childless couples. Many people who work in downtown San Francisco and live outside the City find and prefer childcare near their place of residence, so the entire burden for the 30% of the workforce that has children (see Consultant's Report, Table IV.D.3) is not appropriately placed in downtown San Francisco. It is true, however, that there is unmet demand for childcare facilities in downtown San Francisco, and that the type of space generally used for childcare (cultural/institutional space) is likely to decline in the C-3 District by the year 2000 (see p.IV.B.34 of the EIR) as indicated by the information provided in the comments. As noted in the EIR, these activities would grow in areas of the City outside the C-3 District (see p.IV.B.48).

It is worth noting that the Plan includes new incentives for establishing child care facilities in the C-3 District by excluding such facilities from floor area ratio calculations, such that child care space would be allowed in addition to the permitted office and/or retail space. Thus, although the amount of cultural/institutional uses may decline in the C-3 District in the future, if this provision of the Plan is used to provide additional childcare facilities in downtown, the use would be part of the office building and would not be affected by a decline in institutional space. The City does not control building leases and thus could not enforce incentives such as rent subsidies or cost reductions for parents.

The Plan and its implementing ordinance could be revised to require that in order to obtain FAR credit the space must be available for childcare for the lifetime of the structure so long as need was demonstrated, evidenced by a lease or other instrument providing for such availability with a copy of such instrument filed with the Department of City Planning and recorded with the County Recorder prior to approval by the Department of any building permit application.

The US Postal Service has a different kind of control over the Rincon Annex site, as that site is publicly owned, and thus could impose more specific requirements related to lease of space in any new building on that site than the City can impose on private developers.

The City Planning Commission does not control or direct staff enforcing codes regulating childcare centers and thus cannot work out any difficulties commenters may have had with Fire Department inspectors or plan checkers. The controlling requirements are State regulations found in the California Administrative Code Titles 19 and 24; they are not found in local ordinances. According to Lt. Norman Silva of the City's Fire Department, State regulations require that childcare facilities be on the ground floor of buildings unless the structure is Type 1 (as are new highrises) and is fully sprinklered. The Fire Department receives requests for clearance from the State Health Department Community Care Licensing Section through the State Fire Marshall's District Office in San Leandro (Lt. Silva, telephone conversation, August 3, 1984).

Comments received and newspaper articles referenced in comments both have indicated that employer-supported childcare is desirable and necessary. For example, the Examiner carried an article on "The growing pains of getting on-site day care" (by C.W. Muranker) on the front page of the March 28, 1984, edition. This and other articles note, as did commenters, that few employers are establishing or supporting childcare centers, that more are doing so now than in the past, but that much more support is needed. A variety of kinds of support are offered or are being considered by employers, ranging from operation by one or a group of firms of centers which give preference to children of employees, to financial support for parent-located childcare, to referral services. It is hoped that by providing an incentive in the "free" FAR, that the Downtown Plan ordinances will aid and encourage employers to provide and support childcare services.

Z.3. FISCAL FACTORS

The Fiscal Factors section of the EIR (pp.II.11-13) summarizes and incorporates by reference the Consultant's Report setting, impact, mitigation and appendix sections for fiscal relative to Alternatives 1 through 5. Much of this information is not of an environmental nature. However, it is provided for the public interest in order that as much information as possible be made available concerning implications of downtown development. As discussed in the EIR Fiscal Factors section (Page II.12), the Downtown Plan's direct fiscal benefits would likely fall within the range of the Alternatives' direct fiscal benefits. The indirect costs and benefits, as with the Alternatives, cannot be quantified for the Downtown Plan.

A comment suggests that the EIR includes a fiscal conclusion that a surplus would result from downtown development. This is not the case. As stated in the EIR on page II.13, "In summary, the fiscal analysis in the Consultant's Report was able to provide estimates of direct costs and revenues, but not estimates of indirect costs and revenues. That partial picture does not provide the complete balance sheet for downtown development." The indirect costs which cannot be addressed include such items as administration, hospitals, schools, parks and social services as a function of Downtown, and is addressed in EIR page II.12 and Consultant's Report pages IV.G.9-11, V.G.1-2, and V.G.32-40. To clarify this, however, EIR page II.13 should be amended to include the following sentence after the sentences cited above.

> "No conclusion is possible on whether a surplus or deficit would exist if both direct and indirect costs and revenue were included. For further discussion, see Consultant's Report pages V.G.32-40, which identifies various costs which are not direct costs of Downtown development."

The real estate impacts of the Downtown Plan are summarized on EIR pages IV.B.74 from the perspective of C-3 district property owners. It is acknowledged that these may have fiscal implications for the City. The policies of the Downtown Plan that directly affect the costs of development are discussed on EIR page IV. B.37, where it is noted that "these provisions would result in six to 10 percent higher construction costs compared to the costs for typical box-shaped highrise buildings". Construction cost estimates were prepared by Roger Boyer and Associates as part of the construction feasibility analysis described in Appendix D. The construction cost estimates were derived from basic construction costs, as adjusted by any special characteristics of the Alternatives (such as required setbacks of upper floors) that may affect typical construction costs. Alternative 5 (Guiding Downtown Development, which as the forerunner of the Downtown Plan is close to it in its costs) in its costs analysis included a cost increase for building setbacks, a sloped roof, and artwork, and noted a recreation and open space requirement, and a housing component (Consultant Report, pp.D.24-26). Further discussion is included in Response B.3.

As in Response B.3, an "Annual Employer Cost-Matrix" requested by one commenter cannot be directly translated into rents and to differences in competitive advantages among cities in the manner suggested by the comment. However, the cost exactions were incorporated into the economic analysis and forecasts for the Downtown Plan that are presented in the EIR. Although the fiscal implications were not calculated for the Plan, the results would fall within the range reflected by the analysis of the Alternatives in the Consultants Report.

One comment requested information on the property and sales taxes that C-3 development is projected to contribute to BART in 1990 and 2000. Present contributions to BART generated by the C-3 District (Fiscal Year 1983-84) were about $380,000 (to its operating fund) from property taxes, and $8,280,000 from sales taxes. Information from the Consultant's Report results in the following forecasts for additional revenue to BART resulting from changes in C-3 space and activity, in 1982 dollars, for its five Alternatives (The calculations are on file and available for review during normal business hours at the Department's offices).

TABLE C&R.2.1 C-3 DISTRICT CONTRIBUTIONS TO BART

	FY1983-84	1990	2000
Property Tax	$ 380,000	$ 160,000	$ 220,000-$ 300,000
Sales Tax	$8,280,000	$1,200,000	$2,780,000-$3,210,000

Contributions from the Downtown Plan would be the same in 1990, and at the low end of the range of the range in 2000. (Also, see Response E.2.7.4)

A comment notes that figures in Consultant's Report Tables V.G.1 and 2 do not add up. That observation is correct. Footnote(g) in Table V.G.2 points out that the estimates are not the simple sum of the 1990 and 2000 estimates from Table V.G.1, and refers the reader to Appendix L, Tables L.9, L.31 and L.34 for the explanation. This is because of such factors as decline in assessed value over time and increases in cost of energy consumed over time.

The EIR in pages IV.G.6-11 discusses general effects of the C-3 District on City finances. It notes that several recent studies (this would include the October 1979 Sedway/Cooke Study, Downtown San Francisco Conservation and Development Planning Program - Phase 1: Reconnaissance and Programming) have investigated the impact of the existing downtown on City revenues and costs. It points out that the conclusions of these studies differ. It then summarizes two studies which analyzed the revenue and costs effects of existing development in the downtown area using information reflecting the changed fiscal environment brought about by Proposition 13 (Arthur Anderson and Co., 1980; David Jones, 1981). The Sedway/Cooke Study in pages 56-58 analyzes fiscal concerns, and relied in part on the 1975 SPUR study, Impact of Intensive High-Rise Development in San Francisco. It stated that the effect of Proposition 13 was to reverse the past relationship where Downtown provided about a 5% surplus of revenues over costs, to the point where present costs (for Downtown in general, not new development Downtown) may exceed revenues by as much as 25%. It stated that further analysis was needed on whether new development would be self-sustaining, but that it was clear that Downtown would be a focus of significant fiscal problems for San Francisco. The Sedway/Cooke study, by relying on the pre-Proposition 13 costs of the 1975 SPUR study, did not provide as comprehensive a comparison of the post-Proposition 13 implications of downtown growth as did the later studies compared in the Consultant's Report, which focused on both costs and revenues after Proposition 13. The SPUR and Sedway/Cooke study are referenced in footnote 6, page IV.G.15 of the Consultant's Report, and are available for review at the Department of City Planning.

Z.4. COMIC INTEREST

The Department appreciates the humor of the comment.

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